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ABSTRACT

On June 19, 1972, the subcommittee heard testimony on land-grant colleges and their role in rural America. The hearing's purpose was to determine whether this system of education, research, and extension is working for or against the cause--livable communities in rural America. Among the candid questions asked about the land-grant college system were: (1) Who benefits from the land-grant college efforts? (2) Have the land-grant colleges conspired, wittingly or unwittingly in the displacement and improverishment of farmworkers? (3) Have these colleges lived up to their historic mission in rural America--to serve all the people of the Nation? and (4) Since 1% of all land-grant college money goes to the 17 colleges which are predominately black, what steps must be taken to eliminate racial discrimination where it exists in the system? Witnesses gave testimony on: the land-grant college complex and what it has done for family farmers, farmworkers, cooperatives, and the majority of other rural Americans; agricultural research pertaining to rural development and the needs of rural people in Pennsylvania; the land-grant college and the consumer; the creation and difficulties of black land-grant colleges; the legal environment in which the allocations of funds have been made to black land-grant colleges; and the land-grant college and organic gardening and farming. (NQ)

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FARMWORKERS IN RURAL AMERICA, 1971-1972

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HEARINGS

BEFORE THE

SUBCOMMITTEE ON MIGRATORY LABOR

OF THE

COMMITTEE ON
LABOR AND PUBLIC WELFARE
UNITED STATES SENATE

NINETY-SECOND CONGRESS

FIRST AND SECOND SESSIONS

ON

THE ROLE OF LAND-GRANT COLLEGES

JUNE 19, 1972

PART 4A

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

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FORMAT OF HEARINGS ON FARMWORKERS IN RURAL AMERICA

The Subcommittee on Migratory Labor conducted public hearings in Washington, D.C., and in San Francisco and Fresno, Calif., during the 92d Congress on "Farmworkers in Rural America." These hearings are contained in the following parts:

Subject matter	*Hearings dates*
Part 1: Farmworkers in Rural Poverty	July 22, September 21 and 22, 1971.
Part 2: Who Owns the Land?	November 5, 1971.
Part 3: Land Ownership, Use, and Distribution:	
A. San Francisco	January 11, 1972.
B. Fresno	January 12, 1972.
C. San Francisco	January 13, 1972.
Part 4: Role of Land-Grant Colleges:	
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FARMWORKERS IN RURAL AMERICA, 1971–1972

(The Role of Land-Grant Colleges)

MONDAY, JUNE 19, 1972

U.S. SENATE,
SUBCOMMITTEE ON MIGRATORY LABOR OF THE
COMMITTEE ON LABOR AND PUBLIC WELFARE,
Washington, D.C.

The subcommittee met pursuant to notice at 9:30 a.m. in room 1202, New Senate Office Building, Senator Adlai E. Stevenson III (chairman of the subcommittee) presiding.

Present: Senator Stevenson.

Staff members present: Boren Chertkov, subcommittee counsel; Basil Condos, professional staff member; and Eugene Mittelman, minority counsel.

Senator STEVENSON. The meeting of the subcommittee will come to order.

STATEMENT BY ADLAI E. STEVENSON III, A U.S. SENATOR FROM THE STATE OF ILLINOIS

For the past year, the Subcommittee on Migratory Labor has been conducting hearings into the continuing problem of poverty and deprivation among the Nation's farmworkers. In the course of our hearings, some striking facts have emerged:

We have learned that rural poverty, though it is largely invisible to the Nation's press and to the urban public, exists and persists. It is, in many areas, as deep and pervasive as it was 5, 10, or 20 years ago. The continuing flight of rural people to the cities, at a rate of 1 million a year, is only one dramatic sympton of shriveling opportunity in rural America—and it is one cause of crowding and crisis in urban America.

Through much of our history as a nation, rural poverty has been a melancholy recurring theme. Hunger among those who provide our food; poverty among those who create our abundance; dilapidated houses, rundown schools, dying towns—these depressing images of rural blight are not only pictures from the American past, they are contemporary scenes. And behind these images of decay are personal and human tragedies: families with little hope for success and independence; children with little future if they live their lives in rural America.

We have learned that, though rural poverty is nothing new, some of its causes are new.

While we in urban America have looked the other way, the face of rural America has been changed in the past few years—suddenly, violently, and with drastic consequences.

In a few brief years, giant corporations have moved in on American agriculture. The aims of these giants are simple enough: to own or control the production, processing, and distribution of the Nation's food. Their slogans are appealing enough: "Progress," "Efficiency," "Economies of Scale."

But the human consequences of such progress and efficiency are often staggering: profit for the conglomerate farmers—but losses for farmworkers and farm families: losses not only of a livelihood, but of a way of life; the virtual death not only of the family farm as an enterprise in America, but of a whole fabric of institutions which once gave vitality to our Nation's rural communities.

And in the wake of all this devastating change, little has been created to replace what has been lost.

We have learned that the U.S. Department of Agriculture, though it invests some $6 billion in agriculture each year, has no clear and consistent policy for revitalizing rural America; no clear policy for reclaiming the lives that have been disrupted by the corporate advance into rural America; no policy for creating alternatives in the countryside which might help stem the crisis in the cities. Indeed, it is hard to distinguish the attitude of the Department of Agriculture from the attitude of the agribusiness giants; an attitude summed up in the heartless slogan, "Adapt or Die."

The farm policy—or nonpolicy—which now prevails in America, wittingly or unwittingly, is subsidizing the death of rural America as a place of opportunity for the farmworker and the enterprising small farmer and his family. A crazy quilt of unfair tax loopholes, crop subsidies, and cheap labor policies; our exclusion of farmworkers from the social programs and labor-protection laws which other citizens enjoy; our giveaway of federally funded irrigation waters—all these, it seems, work for the benefit of the giants. And they work against the rights and legitimate interests of farmworkers, family farmers, smalltown citizens, and by no means least, the American consumer.

The result is, in my judgment, both scandal and tragedy. And both the tragedy and scandal seem all the greater when we reflect that they need never have happened; they were not inevitable; they have occurred by default, if not by deliberate design. Why? Because all the while that rural America has been deteriorating we have had at our hands the resources to prevent this decline. What we have lacked has been a policy centered upon human beings and their well-being—and any strong will to implement such a policy. Even now we have the means to revitalize rural America: to make it a fit and promising place for families to live. But often it seems as if we prefer to watch as the rural landscape is reshaped in to a vast soulless, assembly line, and rural citizens are forced to become little more than cogs in the giant machine.

Our hearings today and tomorrow bring us to the Nation's land-grant colleges and their role in the life of rural America. The question before us is whether this vast system of education, research, and extension is working for or against the cause—livable communities in rural America. In short, our question is whether our land-grant colleges, with their great resources of manpower an dtalent; with their budgets totaling nearly three quarters of a billion dollars a year; with their far-flung network of research stations and educational services; with their almost unlimited potential for impact on our rural life—are part of the solution, or part of the problem.

In these 2 days, we will be asking some candid questions about the land-grant college system:

1. Who are the real beneficiaries of land-grant college efforts? Can we be satisfied that all those intended to be served are in fact served?

2. Have the land-grant colleges conspired, wittingly or unwittingly, in the displacement and impoverishment of farmworkers? Have they shown a sense of responsibility for solving the problems caused by mechanized and large-scale corporate farming?

3. Have the land-grant colleges lived up to their historic mission in rural America—to serve all the people of the Nation?

4. Should the land-grant colleges disclose publicly more details of their research projects, administrative operations, fiscal policies, industry contributions, and progress made toward their defined goals? What mechanisms are needed, if any, to make the land-grant college system more accountable and responsible to the public?

5. In view of the fact that less than 1 percent of all land-grant college money goes to the 17 land-grant colleges which are predominately black, what steps must be taken to eliminate racial discrimination where it exists in the system?

To some, notably the authors of the recent report on the system entitled "Hard Tomatoes, Hard Times," the answers to these questions constitute a sweeping indictment of the land-grant college system.

We will be hearing testimony on both sides of that issue. Throughout, our aim will be to be both positive and constructive: to learn whether changes are needed in our land-grant college system—and if so, whether they can be inspired by the Congress.

But certainly no apology is needed for holding the land-grant college system up to the light of congressional scrutiny. If we failed to assess the achievements and directions of a system so large, so expensive, and so important, we would be guilty of public neglect.

I welcome all of you—witnesses, members of the public, and the press—to these hearings. If we are able in these hearings and future ones to focus public attention on the plight of 50 million rural citizens, we will in my judgment be performing a vital public service.

Our first witness is Mr. Jim Hightower. Mr. Hightower was born and raised and educated in Texas. He formerly was a legislative assistant to Senator Yarborough of Texas. Now he is the director of the Agribusiness Accountability Project. He also is editor of the report, "Hard Tomatoes, Hard Times," subtitled "The Failure of the Land-Grant College Complex."

Accompanying Mr. Hightower is Ms. Susan DeMarco, also with the Agribusiness Accountability Project.

Thank you for joining us this morning, Mr. Hightower and Ms. DeMarco. You have a statement. We can enter it in the record if you would like to just summarize it; or, if you would like to read it, go ahead.

STATEMENT OF JIM HIGHTOWER, DIRECTOR, AGRIBUSINESS ACCOUNTABILITY PROJECT; ACCOMPANIED BY SUSAN DEMARCO, RESEARCH COORDINATOR

Mr. HIGHTOWER. Thank you, Mr. Chairman. I am going to submit for the record as our official statement a summary of "Hard Tomatoes, Hard Times."

Senator **Stevenson**. Without objection, it will be entered in the record at the end of your testimony.

Mr. **Hightower**. I will just hit some of the highlights of that report, stressing some of the issues that we think are of particular significance for this hearing.

I am Jim Hightower, a director of the Agribusiness Accountability Project. With me is Ms. Susan DeMarco, research associate with the project. We are testifying this morning in behalf of the project's task force on the land-grant college complex. I served as director of the task force, and Ms. DeMarco was research coordinator. Attached to our statement is a brief description of the Agribusiness Accountability Project and of the task force.

On May 31 of this year, the task force released its preliminary report, "Hard Tomatoes, Hard Times." This report is an independent examination of the land-grant—agricultural complex, located in every State of the Union and including colleges of agriculture, agricultural experiment stations, and State extension services. The report is focused primarily on the research effort of this complex.

The message of "Hard Tomatoes, Hard Times" is that the tax-supported, land grant complex has come to serve an elite of private, corporate interests in agriculture, while ignoring those who have the most urgent needs and the most legitimate claims for assistance.

Mr. Chairman, as the Des Moines Register editorialized a couple of weeks ago, this message "will not be received by people in [rural] areas as a startling revelation." In fact, there is nothing in our report that most rural constituencies don't at least suspect, nothing that any other independent examination of the complex would not have picked up. The failure of the complex is obvious—it is written in the land-grant community's own materials.

More tragically, it is written all over rural America. Go out there and ask family farmers, farm workers, independent bankers, small town mayors, struggling cooperatives, organic producers and the majority of other rural Americans what their land-grant complex has done for them. You might also ask what that complex has done to them.

Rural America is in crisis. Family farmers are squeezed between low prices for their products and the skyrocketing cost of doing business, with 2,000 of them a week being squeezed right out of business. The plight of farm workers is the shame of our Nation. Rural towns are without sewerage systems, without adequate housing, without medical facilities and increasingly without people. Some 800,000 rural people every year are packing into already-gorged urban areas, with less than 2 percent of our land straining to accommodate 73 percent of our people.

Where has the land-grant college complex been? The most damning failure of the complex is its total abdication of leadership. At a time when rural America desperately needs scientific and intellectual attention to meet critical needs, the land grant community has its head in the sand, preoccupied with narrow concepts of efficiency and productivity.

The complex has been eager to work with farm machinery manufacturers and well-capitalized farming operations to mechanize all agricultural labor, but it has accepted no responsibility for the farm laborer who is put out of work by the machine. It has worked hand-in-hand with seed companies to develop high-yield strains, but it has not noticed that rural America is yielding up practically all of its young people. It has been available day and night to help nonfarming corporations develop schemes of vertical integration, while offering independent family farmers little more comfort than "adapt or die." It has devoted hours to create adequate water systems for fruit and vegetable canners, but 30,000 rural communities in this country still have no central water systems. It has tampered with the gene structure of tomatoes, strawberries, asparagus and other foods to prepare them for the steel grasp of the mechanical harvestors, but it has sat still while the American food supply has been laced with carcinogenic substances.

The primary beneficiaries of land grant research are agribusiness corporations. These interests envision rural America as a factory that will produce food, fiber, and profits on a corporate assembly line extending from the fields through the supermarket checkout counter. Through mechanical, chemical and managerial research, land-grant colleges are coming close to the agribusiness ideal.

Genetically redesigned, mechanically planted thinned and weeded, chemically readied and mechanically harvested and sorted, food products move out of the field and into the processing and marketing stages—untouched by human hands.

Land-grant researchers are at work today on literally every need of corporate agriculture, meeting their needs and whims with tax dollars. Schemes to assist feed companies to vertically integrate hog farmers are being developed; new packages are designed for marketing corporations; cosmetics are researched to contribute to consumer appeal of food items; computer checkout systems are designed for supermarkets; brand name canners are assisted with new processing methods; and giant chemical corporations receive exclusive licenses to produce and sell publicly researched chemicals.

Service to agribusiness is not by coincidence. In dozens of ways, corporate agribusiness gets into the land-grant complex. It is welcomed there by administrators, academics, scientists, and researchers who share the agribusinessman's vision of integrated, automated agriculture.

Corporate executives sit on college boards of trustees, purchase research from experiment stations, hire land-grant academics as private consultants, advise and are advised by land grant officials, go to Washington and State capitols to urge more public money for land-grant research, publish and distribute the writings of academics, provide scholarships and other educational support, invite land grant participation in their industrial conferences and sponsor foundations that extend both grants and recognition to the land grant community.

Money is the web of the tight relationship between agribusiness and the land-grant complex. It is not that a huge sum of money is given—industry gave $12 million directly to State experiment stations for research in 1969. Rather it is that enough money is given to influence research done with public funds.

At least 23 land-grant colleges have established private, tax-exempt foundations to handle grants and contracts coming into their institutions for research. Through these curious mechanisms, a funding source gives money to be funneled to a public university to conduct research. By this shell game, private research can be undertaken without obligation to report publicly the names of the corporations that are making research grants, the amounts of those grants, the purpose of those grants or the terms under which the grants are made.

These foundations also handle patents for the colleges. When a corporation invests in research through a foundation, it is done normally with the understanding that the corporation will have first shot at a license on any patented process or product that results. On research patents that do not result from corporate grants, the procedure for licensing is just as cozy. At Purdue University, for example, a list is drawn of responsible companies that might have an interest in the process or product, and the corporations are approached one by one until there is a taker.

Mr. Chairman, where does the corporation end and the land-grant college begin? It is difficult to find the public interest in this tangle. These ties to agribusiness raise the most serious questions about the subversion of scientific integrity and the selling of the public trust.

It is not easy to know what the land-grant complex is and what it is doing. For example, most agricultural experiment stations offer an annual report in compliance with the Hatch Act disclosure provisions, but these reports are less than enlightening. Data is not supplied uniformly, it is not collected in a central location and it either is not reported or is reported in a form that cannot easily be obtained or understood. Furthermore, fundamental questions go unasked and fundamental facts go unreported.

The land-grant college complex has been able to get by with a minimum of public disclosure, and that has meant that the community has been able to operate with a minimum of public accountability.

There is nothing inevitable about agribusiness domination of agriculture. While this country enjoys an abundance of food, it is not more food, not cheaper food and certainly not better food than that which can be produced by a system dominated by family agriculture. And much more than hard tomatoes rolls off the agribusiness assembly line—rural refugees, boarded-up businesses, deserted churches, abandoned towns, broiling urban ghettos and dozens of other tragic human, social and cultural costs also are products of agribusiness. The land-grant community's preoccupation with corporate agribusiness has been an inefficient public investment.

"Hard Tomatoes, Hard Times" is not simply an attack on the land-grant college complex. We have not spent 9 months on this inquiry just so we could exchange press releases with the land-grant establishment. The American taxpayer is laying out some $750 million a year that simply is not being spent in the public interest. More important, people are being hurt by this expenditure. It is a situation that cries out for national attention.

Had the land-grant community chosen to put its time, its money, its expertise, and its technology into rural people, rather than into corporate pockets, then rural America today would be a place where millions could live and work in dignity. It is time to reorient the colleges so that they will begin to act in the public interest.

It is likely that the land-grant establishment, from Secretary Butz on down, will come into this hearing tomorrow with the same, tired recitation of benefits from agricultural research. They undoubtedly will produce an array of charts and rhetoric, mounting a defense based on their old standbys of "efficiency," "productivity," and "cheap food." That is all they can do. That is the same old stuff they feed Congress every year at appropriations time.

What we have done in Hard Tomatoes, Hard Times, and what others have tried to point out before us, is to suggest that there are enormous costs involved in the land-grant community's narrow definitions of "efficiency," "productivity," and "cheap." Is it efficient to depopulate rural America and to concentrate food production in the hands of corporate America? Does productivity have to mean the elimination of 2,000 independent farmers each week, displacement of all agricultural labor and poisoning of land and food? Even assuming low supermarket prices, is food cheap when it is hard, tasteless, and possibly dangerous?

Mr. Chairman, it is the fondest hope of the land-grant establishment that Hard Tomatoes, Hard Times will just pass by, that there will be no hard and continuing look at their closed world. It is essential that this subcommittee, that all of Congress and that State legislatures make thorough investigations of the work that the taxpayer is funding through the land-grant complex. Agricultural research, extension and education is having an enormous impact in this country. It is essential that there by a thorough accounting, with careful consideration of the costs, as well as the benefits.

Of course, this subcommittee has been in the lead on this issue, and I urge you to continue your probe. In particular, I hope that you might take these hearings into the countryside and onto a couple of land-grant campuses. Out there you can talk with people who cannot come to Washington, and you can get a better feel for the impact of this agricultural complex.

Again, we appreciate the opportunity and the invitation to testify this morning. Ms. DeMarco and I are available for any questions you might have.

Senator STEVENSON. Thank you, Mr. Hightower. You have leveled some serious charges at the land-grant college complex and the Department of Agriculture. We will be hearing tomorrow from the Department, as you know. What will their defense be?

Mr. HIGHTOWER. I think that they will talk primarily in terms of efficiency, and say the technology has produced the most efficient agriculture known to man; that the consumers spend less of their dollar for food in the supermarket than any other civilization in the history of this world.

I think that generally will be the presentation that comes from them, and that they will admit that there are side effects of their investment in corporate agribusiness, but that the benefits largely outweigh those side effects.

What we have done here in this report is to say that "efficient" is more than 49 cents for a pound of tomatoes.

Is it efficient to grow tomatoes with tough skins just so they can be picked by machinery? Is it efficient to drive the laborers who harvest those tomatoes completely out of a job without any compensatory research on their needs?

Is it efficient to develop a $23,000 harvester, as the land-grant colleges did in California, which then is not adaptable to the needs of independent producers of tomatoes, who cannot use the machinery to begin with, who cannot use the machinery on the scale of their operations, where their land is not large enough to be adaptable to that machine?

Is it efficient when that tomato is essentially tasteless?

So, what we are questioning is the narrowness of their definition of efficiency. I think that is the question that the subcommittee might ask them: What do they mean by efficiency?

Senator STEVENSON. I am sure that many research and extension services of the land-grant college complex benefit all farmers; do they not? For instance, in the development of new fertilizers do not the small farmers benefit as well as the large farmers, to the extent that they make the production of food more efficient?

Do they not bring down costs that eventually will benefit the consumer?

You seem to be suggesting that the large farmers benefit more than the small farmers. Will you explain that?

Mr. HIGHTOWER. Yes; we are perfectly willing to admit that there are benefits from agricultural research. We are perfectly willing to admit that the land-grant college complex has not been a complete disaster. It has achieved some good. We do not deny that.

We make that point quite explicitly in our report. But the fact is that the emphasis of their research on fertilizers, on new technology, on managerial systems, is of benefit to corporate agriculture; it is not designed to benefit the small farmer.

If it is a benefit to the smaller farmer, it is only a trickle down benefit; it is incidental.

I believe that the National Farmers Union's president made a statement to that effect a few years ago, saying that land-grant aid to the family farmer was only incidental.

These farmers are not involved in designing the research that is done at colleges of agriculture. The corporate interest in research is solicited and actually designed into the research package. Farmers, farmworkers, and other rural people are not such an integral part of the research design.

Chemical agriculture, which has been researched, developed, and promoted by the land-grant complex, is designed with the highly capitalized, corporate farm in mind. Chemicals have helped to make agriculture a capital-intensive industry rather than a labor-intensive industry, so the small farmer's position is disadvantaged by the research.

Senator STEVENSON. When you speak of corporate farms, are you speaking of large corporations and conglomerates?

Mr. HIGHTOWER. Yes. I am glad you raised that question. There is a recent report from the USDA indicating that a mere 1 percent of the farms in the country are corporate farms, thus implying that the corporate movement into agriculture is no issue. It may be true that only 1 percent are corporate farms and that even most of those are family corporations.

But that does not account, for example, for Campbell soup, which has no farms. This corporation integrates farmers and gets all its produce for its soups and canning operations through contract farming.

Campbell's soup, Del Monte, and various other big name canners and processors may not be directly involved in farming in the sense that they own or lease the land, but they are involved in the sense that they are in control of production.

They tell the farmer what he will produce, how much he will produce, what quality he will produce, when he will produce it, and what he will be paid. The entrepreneurial aspects are lifted from the farmer; the farmer is reduced to a contract laborer. The corporations are making the decisions.

Senator STEVENSON. I do not see how that situation gets us back to the land-grant colleges' relationship to the corporate farm?

Mr. HIGHTOWER. Senator you asked whether the corporate farms were the primary beneficiaries. I am pointing out that there are more corporate "farmers" than USDA likes to admit.

Senator STEVENSON. Another aspect of determining who is affected is that it is not just the large corporate farms, but it is the consolidation of small farms into large enterprises that is helping to drive the people off the land.

It used to be in Illinois that you could make a living on a 160-acre farm; this was the optimum size for a one-family farm. Now I think it is about 360 acres.

We have 360-acre farms throughout Illinois, but fewer family farms than in the past. Is this an outcome of the practices of the land-grant colleges?

Mr. HIGHTOWER. Yes, it is. Again, we are not saying that the land grant colleges are accountable for all the failures of family farming in this country. We are saying that they are accountable on two scores. One is a failure of commission. They have put their primary investment of tax dollars and of private money into technology—chemicals, machinery, and so forth—that is beneficial and easily adaptable to the larger scale operations, which are corporate operations. That includes research on managerial systems. They have developed whole management systems for a corporate farming operation.

They are forcing the farmer to get bigger by making agriculture capital-intensive and by focusing their attention on the development of economic structures for large enterprises.

On the other hand, there are failures of omission where the land-grant community fails to assist the family farmer. They tell him, "Adapt or die", but they do not assist him to adapt. They leave him to die.

Technology is not developed for his scale of operation. He is not assisted with his managerial problems. There is not enough work on his credit needs or his marketing needs. There is a whole range of research that could come out of the land-grant colleges that would help family farmers gain the most possible from agricultural technology and systems.

I think, Senator, that there is some admission of this in the land grant college complex. We have quoted in the book from a speech by Dr. Ned Bayley, who is the director of Science and Education at USDA. In this 1969 speech, Dr. Bayley talks about the failure of land grant research to be adaptable to the needs of smaller producers. Perhaps it would be useful if we submitted this speech for the record.

Senator STEVENSON. We will be glad to have it. It will appear in the record.

(The information referred to follows.)

U.S. Department of Agriculture
Office of the Secretary

AGRICULTURAL RESEARCH: ARROWS IN THE AIR

Most scientists projecting the results of their research prefer to compare their work to Longfellow's arrow that "fell to earth I knew not where." This concept emphasizes the uncertainty of research, highlights the gambling excitement of research as an intellectual game, and provides the basis for the often stated disclaimer: "If you know the results before you start the experiment, it isn't research."

But Longfellow found his arrow later. It was lodged in a tree. Thus it has been with research. A number of persons have been scurrying around during the past several years locating the trees where the "arrows" of research have lodged. These efforts have produced a large amount of data, and volumes of reports. In agricultural research, these findings show the tremendous contribution of the sciences to the miracle of agriculture. It is obvious that, despite the uncertainties of the results of individual studies, agricultural research has been highly mission-oriented, and successfully directed to the solution of important problems. This application of science to the benefit of mankind is an unsurpassed accomplishment that, today, we in the United States take for granted.

Speech by Dr. Ned D. Bayley, Director of Science and Education, U.S. Department of Agriculture, before the Division of Agricultural and Food Chemistry, American Chemical Society, New York, N.Y., September 10, 1969.

We are all familiar with the reports of the impact of agricultural research on the economic development of the United States: the present need for only about 5 percent of our labor force on farms to produce an abundance of food and fiber; the freeing of the rest of our workers to meet the other requirements of a burgeoning economy; and a steady decline in the proportion of income spent by the average housewife for food even during these years of continuing inflation.

If farmers had used the same production methods in 1968 that they used in 1940, some $17 billion more in resources would be required to produce the Nation's food and fiber. The return on public investment for agricultural research, including the extension effort as well, has been enormous, and the dividends keep piling up, year after year. Where else could the taxpayer's dollar have paid off so well?

We are all familiar with the phenomenal increase in crop yields over the past several years. The fantastic increases in efficiency of soil preparation, crop cultivation and harvesting . . . the spectacular technological revolution in the poultry industry . . . the steadily growing productivity of dairy and beef cattle and swine. We have long grown used to the convenience of high-quality products in frozen foods, concentrated juices, dehydrated mashed potatoes, and powdered milk. The housewife now expects -- and generally gets -- fresh leafy vegetables and fruits at economical prices during all seasons. The results of research have been essential to all these developments, and this role of research has been exhaustively documented by many persons.

The historical impact of agricultural research gives us every reason to believe that its technological accomplishments will continue in the future. We would be exaggerating our ability to project the future if we tried to specify exactly the kinds of new technologies which would be developed. Nevertheless, we can be sure that the research results will create opportunities for further increases in productivity, for improved quality of products, for new products, and for new methods of marketing.

All these prognostications are highly oriented to commodities. They depict the end point of agricultural research as the increased efficiency in production and marketing or as consumer acceptance of such a commodity as beef or corn or cotton or tomatoes. They underline the important structure and functions of agriculture as an industry. They are essential to the future of agriculture.

But they fall short of being ends.

What of the other consequences of applying this new technology?

The end results of agricultural research . . . of all research . . . of all constructive human effort, for that matter . . . are not grains or fibers or milk. They are not more efficient marketing -- or pesticides -- or pigs. The ends are opportunities and services for people . . . always have been for people . . . and in our future projections always must be for people. And it is the impact on people of our research arrows in the air that I want to emphasize in my presentation tonight.

Agricultural research affects all kinds of people: the scientists themselves; the producers of agriculture; the other members of agribusiness; nonfarm rural residents; and the general public.

Agricultural research must always be of benefit to scientists. If it does not attract their intellectual curiosity, provide opportunities for their professional accomplishment, and remunerate them adequately for their talents, the researchers will transfer their capabilities to other areas of science. Research managers must constantly recognize this need if agricultural research is to remain viable and productive. We have no corner on available talent. We must attract more of it, and work increasingly to keep the high level of competence that now exists.

During the early years of agricultural research, most people in the United States lived on farms and were directly affected by new findings in agricultural technology. As late as 1937, nearly one-fourth of our people lived on farms. Today, of course, only some five percent of the Nation's population is on farms.

Of our farm operators, the approximately one third whose sales total $10,000 a year or more are served well by agricultural research. This group includes the aggressive entrepreneurs, the innovators, the sophisticated businessmen who know the technology of farming thoroughly. Many of these operate well-organized family farms and some, of course, are corporation farmers. Most of these farmers have sources of capital to finance the investments required by new machinery and new farming practices. These farmers can absorb all the new technology that agricultural research can produce. In fact, they seek out innovations and urge researchers to do more and more.

The people who make up about a fourth of our farm population, however, are not so well served by research. These are the families whose yearly sales from their farms range from $2,500 to $10,000. These are the operators of the middle-sized wheat and feed grain farms, the 10-to-20-cow dairymen, the full-time farmers with medium sized herds of swine or beef cattle.

This middle group of farmers has been on the treadmill of technological change so long that they are frustrated about the past and the present, and apprehensive of the future. They accept new technology as a requirement for survival. Much of it is ill-adapted to their types of operation, to their own farming skills, to their business experience. The purchase of new machinery and the adoption of new practices often force them to overcapitalize their operations, bleed their assets, and mortgage their future returns. They find themselves in a cost-price squeeze, unable to expand their scale of operations to yield sufficient gross income to make a decent living. And they see no prospects of relief.

These are intelligent, hardworking people. At the recent Listening Conferences of the Secretary of Agriculture and his staff, these people let it be known that they want to farm. Alternative ways of life are second best for them. They believe that farm producers such as themselves have been treated differently from other sectors of our production economy -- and less well. They point out the social, legal and economic attitudes that allow other industries in this country to control output and to influence the prices they receive. They challenge the contention that allowing the marketplace to completely control prices is either idealistic or realistic for any industry.

When we ask what agricultural research has done for this group of farmers, the answer comes back: "Very little." In fact, the overall impact of agricultural research has threatened their survival. Research which, through the development of new knowledge, is supposed to give people more acceptable choices, has actually reduced the choices for this group of farmers. We have narrowed their choices to two: either get with the new production efficiency technology as we are developing it, or get out of the farming business. These are not very inspiring alternatives.

Except for a small amount of economic research, particularly that related to cooperatives, to individual farm adjustments, and farm policy, agricultural research has not really focused on solving the problems of this group. Our attitude has been more smugly unaware and possibly intolerant of their circumstances and problems than sympathetic to them.

We in agricultural research must challenge our own thinking about the problems of this group of farmers. Is it necessary for the technology -- which we develop -- to force these people into a blind corner of the farm economy? Can we develop technology which directly benefits these people? Can we control technology, either in its development or adoption, to increase its benefits to these people? How can we improve the business operations for these farmers in ways that are commensurate with their capabilities? Are there new types of inter-farm organization we can study that will bring new efficiencies to their operations, or help them to manage their output, or better influence the activities of the marketplace to their own advantage? Can we increase opportunities for employment -- either on or off the farm -- that will attract the talents and interests of these people?

Yes, some work in this area of research is presently in progress. But we need much more. We need to bring together outstanding social and natural scientists who are sensitive to the problems of these people, and have them thoroughly delineate the researchable areas where some answers can be found to the problems.

Then there is a third group of farmers -- the group we speak of as the low-income farmers. About 42 percent of our farms sell less than $2,500 worth of commodities a year. However, this large group includes part-time and "gentlemen" farmers with other jobs or income, retirees with outside income, and so on. It is difficult, therefore, to get a statistical picture of the actual number of subsistence farmers.

But we know there are many. These are the farmers who have been left way behind by the rapid advances in agricultural technology. This group has always existed, but their plight is more marked today. As the standards of living for most of society have moved upward, the gap of disparity has widened. New farming technology, for the most part, has been useless to these people, and has even forced some into their present state of destitution.

Along with these low-income farmers, let us also consider the farm workers -- the hired hands and the migratory workers. Some 2.9 million persons made up the Nation's hired farm work force in 1968. Their farm work year averaged 79 days, at wages of less than $11 a day; their annual farm wage earnings averaged $834, plus the benefits furnished free by farm employers. Only about 10 percent of these people were year-round workers, who averaged 312 days of farmwork for $3,616 in wages.

Technology has benefited these people very little, if at all. What have we done to increase their productivity as individuals so that their standards of living can be raised?

For a long time, we in agricultural research pretended that these people didn't exist; at the least, we ignored them. Only recently have we turned some of our social science studies in their direction -- mostly to enlighten ourselves as to who they are and what sort of existence they lead. Recently we have also focused some studies on increasing opportunities and choices for these two groups, but our efforts have been notoriously feeble in proportion to the need.

The emphasis of public programs for these people has been on action, and rightly so. The lower-income citizens need work opportunities, and skills, and counsel, and guidance. But how do you create work opportunities? And how do you determine the appropriate skills to develop?

The action programs to help these people help themselves have to be oriented towards working with individuals, but the most important opportunities are programs involving total communities. Work opportunities come about not only by demonstrating new ways of earning a living on the farm, but more often by making jobs available off the farm and within commuting distance. Therefore, improved work opportunities require community development programs carried out at the grassroots level.

Such programs cannot be carried out successfully unless economic studies first show the feasibility of various kinds of job-providing activities in the individual communities. These economic studies are essentially evaluation analyses of alternative ways to provide new jobs. They must be conducted at the local level in order to be effective. We might compare this social science research to the "variety trials" in the agronomic sciences that are held in various parts of a State to evaluate the adaptability and yield of alternative crops for a particular locality. Just as the variety trials have been essential to the use of genetic knowledge of plants, so the analyses of alternative job opportunities is essential to the use of economic knowledge in a specific community.

Some efforts of this type are already in progress in the country. However, if we are to meet the social and economic needs of low-income people, these efforts need to be intensified many-fold. Such research would be carried out in close cooperation with the Extension Service and various community action programs of local, State, and Federal governments.

These economic studies are also important to the future of all rural people -- both the middle and upper income groups of farm producers, the other members of agribusiness, and the nonfarm rural residents. A revitalized community, with new educational opportunities, new small industries, more jobs, new concepts of people working together, benefits all the people living there -- at all economic levels.

Other people who live in rural areas but work in nonfarm industries have also been affected by the technological revolution on the farm as well as by much of the marketing, processing, and other agribusiness research, both in the natural sciences and in economics. These people do form an increasing proportion of the nonfarm population, and their needs should be met as part of research's responsibility to rural America.

Research has affected all phases of agribusiness, whether it is rural or urban . . . the farm machinery companies, the pharmaceuticals, the agricultural chemicals, the marketing centers, transportation, the whole enormous feed and food-selling industries.

The effect has not always been good. Like the "small" groceryman and the "small" farmer, the "little" man in agribusiness has often been unable to adapt his operations to take advantage of new technology. Some farm machinery companies have been squeezed out of business, and small feed companies have been hard hit.

On the other hand, larger, more prosperous businesses have adopted the new, sophisticated techniques and have profited accordingly.

The final group affected by agricultural research is also the largest group. It is, of course, the general public. Agricultural research affects the general public in two ways: first, directly, as consumers of agriculture and forest products, and second, indirectly, from effects of new farm technology on the environment.

The general public -- the consumers -- have benefited more than any other group from agricultural research. The abundance of farm and forest products, their relatively low cost, and their continually improving quality are ample testimony to that. Ironically enough, the majority of researchers who considered their efforts and their findings as primarily beneficial to farmers have belatedly realized that most of the increased efficiencies in farming have been of primary benefit to consumers -- in the form of lower prices or -- to put it in the jargon of these inflationary times -- in preventing a more rapid rise in prices of food and other farm products. Publicly supported research is also the prime source of information and help for the country on food composition, proper diet, human nutrition, and family economics.

Our responsibility to the general public as consumers requires that we keep this part of our research effort strong.

Agricultural research also affects the general public as a result of secondary impacts from new technology. Some of these are highly beneficial; others are adverse.

We harvest our crops from fewer acres than were used 50 years ago. Because this is true, we leave forests and grasslands for other uses than agricultural production.

The new technologies that increased the efficiency of managing our forests -- including reforestation practices -- have provided millions of acres of recreational lands and ideal habitat for wildlife. The new technologies for preventing, detecting, and fighting forest fires have greatly reduced the fire damage to our beautiful woodlands. New forestry technologies are being used to provide multiple benefits from our forest lands. The concept of multiple-use makes possible the coordinated production of timber, water, wildlife, recreation opportunities, and forage at a reduced total cost to the public.

The application of soil and water conservation research has virtually stopped the disastrous dust storms of the 1930's and has changed dust-choked towns and farms into livable, productive places in which to live. Similar research has reduced the gaping ruts of erosion and covered them with greenery and flowering plants. Yes, the careful management of our lands and our farms through the use of research findings has greatly enhanced the environment of all Americans.

Yet not all the side effects of new technology are beneficial. We are well aware that the well intentioned technological rush to better the lot of man has the inherent danger of inadvertently disrupting entire ecosystems and irreversibly damaging the environment of man, animals, and plants. Just as the technologies of automobile and airplane transportation and atomic energy have created environmental problems in the wake of their benefits, so also have some of the technologies of agriculture. The contamination of the environment with persistent pesticides is one that has been highly publicized. The pollution of water supplies from livestock wastes where livestock are concentrated in large numbers is another. The annoyance of odors from livestock or from other agricultural enterprises that are intermixed with nonfarm dwellings is still another. There is new urgency, therefore, in discerning the interrelated activities and natural laws that maintain farm and forest productivity in balance with healthy, enjoyable, and livable outdoor environments.

Our responsibilities to the public require that we aim some of our agricultural research arrows towards these problems. Someeffort is already underway, but many of the problems have not yet been solved, and we may need to put still more of our research resources into this effort.

This, then, is the mural of agricultural research and a look at its future, described in terms of the needs of the people it affects -- the scientists themselves, the producers of agriculture, the other members of agribusiness, the nonfarm rural residents, and the general public. How does this mural fit the picture of agricultural research as it is today?

The answer becomes graphically clear when we recognize that about two-thirds of our present research in agriculture and forestry is oriented towards increasing or maintaining productive efficiency -- towards the development of new technology that is of direct benefit to the public as consumers and to the early adopters, generally the higher income farmers.

Only 1-1/2 percent of our effort goes into research on human resources and community development: farm income research gets 1-1/2 percent. About 3 percent of the research attacks the pollution aspects of agriculture. About 2 percent of expenditures for State and Federal research goes to studies on diet and nutrition.

In terms of the future needs of our people, our agricultural research program is out of balance. We should keep our production research as strong as necessary to maintain the efficiency levels we now have, and to improve them as specific needs arise. But we have an obligation to the people we serve to greatly increase the proportion of our present effort towards solving the other problems of the people in rural America.

Learning how to bring that about is the greatest challenge facing scientists and administrators in agricultural research.

Agricultural research has been a leader among all the activities of science in providing knowledge and technology that have direct relevance to the needs of people. The challenge ahead of us is to maintain that leadership. However, this time, considering where our past arrows have fallen, the challenge is to bring about a balance in our research that will be more broadly relevant to the needs of all of rural America.

Yes, we do have a National Program for Research in Agriculture, and some may wonder how these ideas I am proposing will affect the plans of the National Program. This program was established after long study and participation by a large portion of the agricultural research community. Do I now propose to scrap the plan?

The answer is "no." The National Program calls for a considerable increase in the research areas I believe need greater support. In fact, some of the National Program projections call for several-fold increases in the social science areas I have emphasized in my discussion here.

However, there has been some thinking that we should move ahead on all fronts in accordance with the projections of the National Program. I am suggesting here that this approach to the future of agricultural research is not appropriate.

I am suggesting here that we single out certain areas for special effort during the next several years, and that we be willing to lessen our emphasis on expansion in some of the other areas. I believe that this is the only effective way to implement the projections of the National Program for Research in Agriculture and the only way that this program can really be an effective, dynamic framework for planning our future.

In closing, let me stress that whatever is done to achieve the required balance must, of course, be carried out in full cooperation with the universities, through mutual understanding and agreement. Whatever is done must have the full understanding of the scientists involved, the farming and agribusiness industries, and the action agencies of local, State and Federal governments. Whatever we do must be supported by the executive branches and legislative bodies providing appropriations for agricultural research.

It will not be easy.

Nevertheless, the first giant steps are open discussion and full recognition of the need. And it is to urge us all towards the taking of those steps that I have presented these remarks to you.

Some of my colleagues have said, "But, Ned, why do you carry this message to this audience -- to members of the American Chemical Society. They are strongly oriented towards the industry aspects of agricultural research. These people are likely to be strongly antagonistic to what you have to say."

My answer to them has been this --

I have worked with scientists all my professional life. Regardless of the special interests they may have, I have always had great respect for their willingness to look at a situation from a different point of view, to discuss and debate and to carefully consider ideas which may disagree with their own, and to have an overriding interest in obtaining the right answers to future challenges regardless of the implication. I ask for no more and hope for no less regarding my presentation to you here tonight.

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SOME IMPLICATIONS OF INDUSTRIALIZATION OF THE FOOD SECTOR OF THE U.S. ECONOMY—DISCUSSION

(By Don Paarlberg, Purdue University)

Shaffer's paper is, in my opinion, an excellent one and a good keynote for this seminar. Using proper clinical procedure, Shaffer places diagnosis prior to prescription. The diagnosis that emerges, as I evaluate it, is that science and technology are producing changes in the food sector more rapidly than these changes can readily be digested. No pun intended. Shaffer cites striking figures on the pace of change. In a 14-year period, man-hours spent producing cotton in the United States fell 80 percent. The accumulation of these people in our urban ghettoes is in some way related to our recent riots. Ray Goldberg, in his new book *Agribusiness Coordination*, states that from 1947 to 1966 the number of farm workers in the United States fell 44 percent. The Food and Fiber Commission says that in the last 10 years, one farm out of every four has ceased to exist. Shaffer cites the tension and frustration that have developed in the farm areas. He says the system is coming unstuck. This is in spite of substantial gains, during the last decade, in per capita real income for farm people. It may well be that the uneasiness in the agricultural areas arises in large part from psychological reasons. Agrarianism is being assaulted by technological change. Familiar ways of doing things are disappearing and new values have not emerged to take their place.

There is little question as to what has been instrumental in causing the profound technological changes that Shaffer describes. Chiefly responsible are tremendous inputs of research and education, about half of which have been supplied by public agencies. Those who are industrializing agriculture are simply applying the results of this research. The industrialization of agriculture, which gives rise to the problems we will discuss in this seminar, is not some autonomous managerial invention; it is the natural consequence of our scientific research. Our research inputs have been very great. According to a study of the 1915 to 1960 experience, done by Robert Latimer at Purdue, State Experiment Station expenditures for research from federal and state appropriations and from private sources increased by a compounded annual rate of 11 percent. Increases have continued into the 1960's, though recently the rate of increase has been less. Expenditures for extension work have shown similar behavior.

On the cover page of Shaffer's paper, offered without comment but with seeming approval, is a quotation from Alfred North Whitehead: "The major advances in civilization are processes that all but wreck the societies in which they occur." The idea here is one to which I personally subscribe: that the relationship between the rate of technological change in a society and the general good that accrues to the society is in the form of a curve, with a low reading for a semi-stagnant economy, reaching a maximum at some intermediate rate of technological change, and taking on a negative slope when the rate of change exceeds some optimum point. This is contrary to the conventional view, held by almost all physical scientists, that the relationship of the rate of technical change in a society and the general good resulting therefrom is positive, linear and steep. The prevalent view equates change with progress and holds that technological change is good, that more change is better, and that the most rapid possible technological change will result in the most desirable situation.

Even if one accepts the idea that the relationship is cuvilinear, he still will be unable to chart it accurately, or to indicate our present position thereon. I judge that Shaffer feels there is such a curve and that we may be approaching its apogee, or we may be at it, or we may be somewhat pass it. My own view is that we are near enough to the maximum point on this curve to give us pause when we consider policy alternatives. We are all familiar with the Phillips Curve, which postulates incompatibility between the twin goals of stable prices and full employment. There must be some trade-off between them. There may well be a comparable trade-off between the twin goals of stability and progrss in the agricultural sector, and we may be at a position in which the incremental value of a unit of stability exceeds the value of yet another increment of what we call progress.

If change is indeed coming more rapidly than it can readily be assimilated, then the logical thing would be to check the flow of public funds which fuel the change. *The total input for agricultural research and development, public and private, is now approximately a billion dollars a year.* We are spending approximately three billion dollars a year through acreage retirement programs, to induce farmers to forego full use of the new knowledge. It must be that we have collectively passed some form of adverse judgment on the utility of our new agricultural knowledge or we would not undertake such expensive programs to avert its full use.

Even to raise a question before a group of Land Grant college people about the appropriateness of the Experiment Station effort in research may be interpreted as an act of heresy. Behind our present effort is a century of precedent and momentum. *We tried to change the direction of research while I was in the Department of Agriculture, away from strict production research and in the direction of facilitating adjustment. About all that happened was that we succeeded in renaming a few projects, getting the word "adjustment" inserted in the titles, with no real change in the nature of the studies.*

Our farmers now supply America with the best diet in the world at the lowest relative cost in history, 18 percent of the consumer's income. We might well ask whether farmers should be subjected to a yet faster pace of change, to be industrialized even more rapidly, in order to drive that figure a point or two lower. It is a fair question, not to be answered dogmatically or out of a conditioned reflex based on a hundred years of Land Grant philosophy.

Many years ago in England the industrial revolution resulted in dislocations and social problems that were largely ignored. It has become common to criticize the leaders of that day for their callousness. It may be appropriate to ask whether we who promote today's agricultural revolution may in time come under similar indictment.

There are two persuasive arguments for a continued high level of the public support which undergirds the drive toward an industrialized agriculture. First, it is important that there be cost-lowering technology to permit us to compete more effectively in international markets. Second, there will be need for agricultural technology with which to help meet world food problems. It may be that these two considerations outweigh in importance all of Shaffer's and my own misgivings about the rate of change, the industrialization of agriculture and the erosion of recognized social values. *We may be on a treadmill of industrialization that we can't stop.*

You will note that I speak more from a sense of concern than from conviction as to precisely what should be done. But I do have some general views. *I think we should reorient our research,* working more on agricultural adjustment, rural poverty, and world agricultural development. The invention of new institutional forms that would help more family farms to survive the technological revolution, and the development of new ways to help farmers preserve their decision-making role seem to me priority items for research and policy.

In any case, the problems that now confront us pose a real challenge. They are the problems of dynamism rather than stagnation, of abundance rather than scarcity. That fact that *research has helped to bring these problems about* should give us added incentive to work toward their solution.

I like Shaffer's second cover-page quotation, this one from Marshall McLuhan: "There is absolutely no inevitability as long as there is a willingness to contemplate what is happening." And it is vital to know what is happening. No prescription is likely to be helpful unless it is based on good diagnosis. I think Shaffer has told us what is happening with a good deal of accuracy.

Senator STEVENSON. Have the USDA or the land-grant colleges to your knowledge made any serious efforts to measure the social consequences of mechanization?

Mr. HIGHTOWER. No. They talk about it occasionally in seminars, but such talk does not translate into research programs. Of course land-grant colleges, like all the academic world, hold a good many seminars and symposia.

We have lost a majority of our farmers since 1945, and that is referred to in agricultural academic circles as "farm fallout." They are puzzled by this phenomenon, so I think that they talk about it, but they have not done anything about it. In the report we have done an analysis of ongoing research projects, and that analysis makes clear that there is no real concern for those who are abused by mechanization.

Senator STEVENSON. Let us take one example. You are familiar with the development of the mechanical tobacco picker. Can you tell us how that machine was developed?

Mr. HIGHTOWER. I do not know all the details of how the machine was developed. There are a good many land-grant colleges in the country that have done research involved with that mechanical equipment. North Carolina State University is one of those using taxpayers' money for it, but I do not know how much was used.

We tried to get that figure at one time last year, and we were unable to get a satisfactory figure out of the officials at North Carolina State University.

The machine was designed there by land-grant research engineers. Their work was paid for by tax dollars. It involved the participation of agribusiness corporations. I believe R. J. Reynolds was one involved in the development of the machine. I do not know whether it put money into it or not.

Senator STEVENSON. Can you be more specific about that involvement?

Mr. HIGHTOWER. This is what I mean when I say agribusiness corporations are able to sit in with researchers and plan the designing of research projects. It is a relatively informal process. It is not a matter of conspiracy. It is just a cozy relationship, a way of doing business.

I do not know whether R. J. Reynolds initiated the idea for this machine, but it is possible for R. J. Reynolds to go to an agricultural engineer at a land-grant college and say, "It would be really nice if we had a tobacco harvester." The scientist says, "Yes, maybe we can put it together."

Perhaps the land-grant college will then ask R. J. Reynolds to make a contribution to fund some of that research. The corporation will tell the engineer what the specific needs are, what the focus of the research should be; the machinery will be designed possibly with an R. J. Reynolds scientist working with a tax-paid, land-grant scientist on the machine.

The land-grant community does the engineering research and perhaps develops a prototype of the machine, using the taxpayers' money. It is common for graduate students to be assigned to work on such projects.

After maybe 1 year, a proposal for a Federal or State grant might be submitted to continue working on this project.

When the research prototype of the machine is developed, it is likely that a manufacturing company would be called into the picture. In the case of the tobacco harvester, I think it was Harrington Manufacturing Co. I believe that is a North Carolina manufacturer that was brought in to manufacture the machine and to sell it.

I do not know in this case whether there was a patent obtained by the university. Presumably if there was, the manufacturer was licensed by North Carolina, though I do not know what the licensing agreement was for Harrington Manufacturing Co. to use that patent.

Senator STEVENSON. Do you know what the cost of the tobacco harvester will be, or is?

Mr. HIGHTOWER. No, I do not. There was one developed at the University of Maryland that I believe costs only $2,300. It is a very simple machine. It is for a different kind of tobacco than for the North Carolina variety of tobacco. The $2,300 is just for the harvester; you then have to have a tractor to pull the machine.

I do not know the cost of the one at North Carolina. Machinery varies. The tomato harvester developed at the University of California was $23,000; a cotton harvester I think is in the range of $20,000; a peach harvester runs $35,000.

Senator STEVENSON. Can you tell us anything about the social consequences of the tobacco harvester?

Mr. HIGHTOWER. I do not think we have seen it yet. I think the tobacco harvester is a dramatic case for the future. We saw what the cotton harvester did in terms of displacement of black sharecroppers, farmworkers, and small farmers in the South. It produced the massive rural migration into the cities during the 1950's and 1960's.

There are those who maintain that the tobacco harvester will account for a second wave equal to that of the cotton harvester, displacing small scale tobacco farmers, sharecroppers and workers, and forcing them into urban areas.

Primarily tobacco is a southern crop—North Carolina, Virginia, Maryland, Kentucky. Tobacco workers from those States are going to be driven to Washington, Philadelphia, New York, New Haven, and all along the eastern seaboard.

Senator STEVENSON. These are the farmworkers who would likely be displaced. Can you speculate about the effects of the tobacco harvester on land ownership patterns?

Mr. HIGHTOWER. I do not really know the scale that the tobacco harvester is designed for, so I cannot say for certain. But from your consideration of tobacco allotment legislation, you know that tobacco can be grown on very small plots. In the South, tobacco producers primarily are poor farmers, very small scale operators.

A quarter acre of tobacco sometimes is adequate to keep a person hanging on. But it is certain that the machinery is not designed for a quarter of an acre. It is not designated for 10 acres, which is what a lot of the sharecroppers have in the South.

I do not know what scale it is designed for, but if it is of the type of the cotton harvester, it is designed for a larger scale and highly capitalized operation.

Senator STEVENSON. In previous testimony before the subcommittee it has been estimated that this one machine, the tobacco harvester, will displace 150,000 small farmers and farmworkers by 1975. I ask the staff to assemble for our record, information about tobacco mechanization.

(The information referred to follows:)

EXCERPTS FROM "POTENTIAL MECHANIZATION IN THE FLUE-CURED TOBACCO INDUSTRY", WITH EMPHASIS ON HUMAN RESOURCE ADJUSTMENT, AGRICULTURAL ECONOMIC REPORT NO. 169, ECONOMIC RESEARCH SERVICE, U.S. DEPARTMENT OF AGRICULTURE, WASHINGTON, D.C. 20250, SEPTEMBER, 1969.

SUMMARY AND POLICY IMPLICATIONS

Summary

Large numbers of people are still employed in the production, marketing, and processing of flue-cured tobacco in the Southeastern United States. Mechanization and new technology in this industry, and the resulting displacement of workers, could constitute a problem of substantial social and economic proportions unless new employment opportunities are developed. Full mechanization of the tobacco industry, however, is tending to be inhibited by certain environmental forces. Uncertainty about future demand for tobacco products surely influences investment decisions of farmers. Government tobacco programs, which limit acreage and production and restrict leasing and rental arrangements, are largely barriers to the adoption of full-scale mechanization. Also, extensive program changes and rapid mechanization would have important implications for the people involved.

Mechanization of the Tobacco Industry

During 1967, about 295 million man-hours of labor were required to produce the Nation's flue-cured tobacco crop. Current technology, if adopted without restriction by Government programs, could reduce labor input in tobacco production by about half.

Production mechanization, however, is costly. A mechanical harvesting system requires a capital outlay of $52,000 ($40,000 for bulk-curing barns and $12,000 for the harvester and support equipment). Operated at capacity (about 40 acres), the mechanical harvester is the least costly form of harvesting when wage rates exceed a level of about $1.35 per hour; this wage level will probably be reached soon.

In addition to equipment cost, the small size of production units, resulting largely from restrictive Government programs, has served as an effective deterrent to extensive mechanization of production, particularly in harvesting.

To acquire production units of 40 acres would require substantial combining of fragmented allotments. In the Coastal Plain of North Carolina--the area with largest units--the average production unit was only 8.9 acres in 1968. Multiple-unit farms (farms having one or more sharecroppers) averaged 19 acres of tobacco, compared with 7 acres for single units. The Piedmont area had even smaller production units, estimated at about 5.8 acres of tobacco per unit.

Mechanical harvesting increases the need for skilled harvester operators, tractor drivers, and hoist operators. Employment of more skilled workers, primarily males, would reduce the traditional, seasonal opportunities for females and children to work the harvest; thus, family income would be expected to decline in many cases if mechanization occurs rather fully.

Mechanization of auction sales and processing plants is occurring rapidly. This mechanization reduces the need for heavy manual labor. Mechanized handling of loose leaf tobacco increases the proportion of jobs that can be done by women. Overall, employment in the marketing and processing industries can be expected to decline substantially in the future.

Though complete mechanization of production would probably have minimal effects on the processing industry, marketing (auction) facilities would probably be relocated near the tobacco production centers; for example, they would shift from the Piedmont area to the Coastal Plain.

Demand for Tobacco

Uncertainty about future demand further deters producers from investing large sums in new technology that may have limited alternative uses. Demand for tobacco in 1975 is currently projected to be about the same as in 1968. However, concern over the relationship between cigarette smoking and health is increasingly causing various public and private agencies to try to reduce demand. The future effect of the health issue on demand is not known. Changing technology in cigarette manufacturing has, however, reduced and is expected to further reduce the amount of domestically produced tobacco used per 1,000 cigarettes manufactured.

People Affected

About 84,000 commercial tobacco farms in the study area (fig. 1) and over 350,000 persons in these farm households could be directly affected by mechanization and other changes in the flue-cured industry. If mechanization occurs rather fully, many workers would have to find alternative sources of income, though even now, a number have income from other sources. In 1964, about 46 percent of these farms were operated by tenants, and over half the people in commercial farm households were tenant families. Compared with whites, a much higher proportion of Negro farmers are tenant operators; however, the total number of each is similar. Average age of tobacco farmers is 47, compared with about 37 for the total U.S. work force. This higher average age is coupled with an educational attainment substantially below that of all U.S. workers--7.6 years of school, compared with 12.2.

Hired workers on flue-cured tobacco farms have highly seasonal employment. In the Coastal Plain area of North Carolina, the seasonal job of longest duration is priming--averaging 16.6 days during the 1967 harvest. Croppers averaged 3.6 months of employment in tobacco in the same year. These croppers, with an average educational attainment of 4.3 years, would face especially severe problems in obtaining new employment.

Economic Activity in the Study Area

About 4.1 million residents resided in the flue-cured area under study in 1966. Population in the area had increased 8 percent from 1960. Yet net outmigration from 1960 to 1966 amounted to 69,500

Note: Although "Negro" is used in this text, the figures upon which the analysis is based may include a very small percentage of American Indians, Spanish Americans, and other minority groups because of the rapidly changing composition of this highly mobile work force.

persons. The 1967 unemployment rate in the study area was only 4 percent, and nonmetropolitan areas within the area averaged 4.6 percent. These rates do not, however, indicate the extent of hidden unemployment and underemployment, especially on the smaller farms.

In the study area, the number of children born per woman--particularly to Negro women--is appreciably above the U.S. average. Thus, substantial expansion in local jobs is needed to maintain a satisfactory employment level and to decrease outmigration to other areas where the outmigrants would be at a relative disadvantage in the labor force.

As mechanization of agriculture releases workers, compensating growth in nonfarm employment will be required for satisfactory economic and human resource adjustment. Without such growth, economic recession and increased outmigration will occur, which could create problems of serious proportion. Fortunately, nonfarm employment in the study area grew at a rate of 24 percent between 1962 and 1967, compared with 14 percent for the Nation. Industries likely to use low-skill workers displaced from the tobacco industry are manufacturing, trades, and services. However, specific future job requirements of these growing industries are not known.

Policy Implications

Government program restrictions hinder amalgamation of production units into a size of operation that would effectively use available production technology. Of the 194,374 farms receiving flue-cured tobacco allotments in 1968, less than 1 percent had allotments exceeding 20 acres per farm. Eighty-nine percent had allotments of less than 6 acres each. Average allotment per farm was 3.13 acres. Major program restrictions curtailing amalgamation are discussed below.

Lease and transfer of allotments are restricted to within-county boundaries; tobacco acreage on the producing farm after transfer cannot exceed 50 percent of the recipient farm's cropland; and lease and transfer of allotment is for a single year only. New leases must be negotiated annually.

Production through renting allotment and poundage quotas from others is limited to production of rented allotment and quotas on the farm from which they were rented. Thus, tobacco fields are often miles apart.

Purchases of acreage and poundage quotas must include purchase of the whole farm to which they are allocated; thus the cost of such purchases is substantial.

However, if extensive program changes were authorized, removing the restrictions discussed above, important employment and income implications would result. Some of the more important are outlined below.

(1) Permitting transfer of allotment across county boundaries would remove tobacco production from hilly areas with small, irregular fields and concentrate it in areas where large, level fields

could be effectively mechanized. In the process, the hilly areas would lose employment, related economic activities, and tax base.

(2) Amalgamation of operating units into units of approximately 40 acres and fully mechanizing production would mean that a large number of people now deriving income from tobacco production would be deprived of this source of income.

(3) Under a mechanized production system, many hired workers now employed in tobacco would lose this opportunity for work. Moreover, such workers tend to have skills that are less than competitive in other labor markets.

(4) Welfare programs would have to be expanded for some older and less educated farmers and workers displaced from employment.

(5) Retraining of displaced workers would need to be accelerated, as would the rate of growth in economic sectors other than agriculture, if widespread unemployment or high outmigration rates or both are to be avoided in the study area.

Effects of alternative policies on production, mechanization, and possible displacement of workers can be defined to a substantial degree. It can also be generally shown that the workers likely to be affected are highly disadvantaged, compared with the total U.S. work force. Specific data on the impact of displacement of both hired and family workers, however, are less readily defined because of the dearth of information relative to these workers. Information is lacking on such worker characteristics as age, sex, mobility, and the extent of dependence on income from tobacco. In addition, little is known of alternative employment opportunities and specific skills and educational requirements of them. Such data are needed for more complete evaluation of the potential social and economic consequences of changes in the tobacco industry.

POTENTIAL MECHANIZATION IN THE FLUE-CURED TOBACCO INDUSTRY WITH EMPHASIS ON HUMAN RESOURCE ADJUSTMENT

by a Task Group in the
Economic Research Service

I. INTRODUCTION

Background and Scope of Problem

Large numbers of people are still employed in the production, marketing, and processing of flue-cured tobacco. These economic activities are concentrated in the Southeastern United States. The flue-cured tobacco area of North Carolina and adjacent counties in South Carolina constitutes one of the most, if not the most, heavily populated rural areas in the United States. Much of this population currently relies on full- or part-time employment in the tobacco industry. Some individuals are seasonally employed in more than one of the production, marketing, and processing stages of the industry. Areas in several adjacent States also rely significantly on the flue-cured tobacco industry.

Several recent and highly interrelated developments have resulted in the expectation that total employment in the flue-cured tobacco industry will decline and that the makeup (sex and skills, for example) of the working force will change as the industry becomes more mechanized. Of particular importance is the potential for increasing use of harvesting aids and adoption of new harvesting machines, more extensive mechanization of materials-handling processes in marketing and warehousing, increased bulk handling of untied tobacco, and modifications of programs to permit transfer and consolidation of tobacco allotments. The last possibility, consolidation of tobacco allotments into larger tracts, is related importantly to mechanization of tobacco production, which--for economic reasons--occurs more slowly on smaller production units than on larger ones.

Thus, mechanization of the flue-cured tobacco industry, the resulting displacement of workers, and the need for new employment opportunities in affected areas could constitute a problem of substantial social and economic proportions. Furthermore, a static or declining demand for tobacco is quite possible. Relationships between smoking and health, now under intensive study and discussion, are important aspects of future demand. Also important are technological developments that reduce the amount of tobacco used per 1,000 cigarettes and the proportion of that tobacco that is domestically produced.

In some areas of the flue-cured tobacco belt, other employment opportunities exert a "pull" influence on workers currently employed in the tobacco industry. Thus, there may simultaneously be some areas where tobacco labor is in short supply and other areas where displacement will leave workers without local employment alternatives.

Also, mechanization possibilities differ widely in individual areas, making it necessary for us to provide some analyses for smaller areas within the flue-cured tobacco belt. For this purpose, we have delineated five production areas within the belt.

It is possible that production, processing, and marketing of burley tobacco will also become highly mechanized in the future. Barring a significant decline in demand, however, extensive fragmentation of current allotments; lack of good, operational mechanical harvesters; and lack of any allotment transfer options under Government programs make mechanization in the burley tobacco industry and widespread worker displacement less likely. Consequently, we have limited this report to flue-cured tobacco.

Our major interests here are describing and analyzing, within the flue-cured tobacco belt, the following:

(1) Characteristics of the tobacco industry, including production, marketing, and processing phases;

(2) Technological and institutional factors affecting the tobacco industry, particularly with respect to future employment in the industry;

(3) The study area's population, particularly workers in the tobacco industry; and

(4) Other economic activities present in the area.

We are primarily interested in identifying the potential for mechanizing the tobacco industry in the several areas within the flue-cured belt, the rate at which such mechanization might be expected to occur, the extent of current and potential worker displacement, and characteristics of workers who may be displaced.

If a major worker-displacement problem appears likely, additional research should be conducted to assess the possibility of absorbing displaced workers in other economic activities and the possible need for retraining, welfare, or other programs to ease the impacts of adjustments on individuals and communities involved.

Possible future changes in the demand for flue-cured tobacco are treated only briefly in this report; they are included to help set the perspective for expected changes in the industry. Though changes in demand could materially affect the tobacco industry, they are extremely difficult to appraise now.

The Study Area

The flue-cured tobacco area delineated for this study consists of eight Census agricultural subregions in five Southeastern States.

These subregions form the five major flue-cured tobacco production areas referred to extensively in this report. Relationships between production areas and Census subregions are shown as follows and in figure 1:

II. INSTITUTIONAL, TECHNOLOGICAL, AND DEMAND FACTORS AFFECTING THE FLUE-CURED TOBACCO INDUSTRY

The effects of Government programs, changing technology, and changes in consumer demand on the flue-cured tobacco industry cannot be neatly isolated. Indeed, they are highly interrelated. To the extent possible we will discuss these several factors separately in the section which follows, but with only a minimum of attention to demand.

Government Programs

Few agricultural enterprises are as regulated as the flue-cured tobacco industry. Government programs, in addition to restricting acreage, have placed restrictions on production beginning in 1965 and, until 1968, on form (tied or untied) of sale. These programs were initiated, and have been maintained, in an effort to provide a balance between supply and anticipated demand for tobacco while retaining price levels that would provide adequate returns to production resources.

Government programs have been and are currently an important influence on the structure (including size, number, and location of production units; technology employed; and labor use) of the tobacco industry. In particular, they have affected the organization of production units and, though perhaps to a lesser extent, marketing and processing institutions.

The small size of production units resulting from these programs has deterred extensive mechanization of production. Few farmers have been able to amass enough tobacco acreage to economically justify owning expensive, specialized tobacco equipment. Even with the rigidities of Government programs, however, some new technology has been adopted. Yet, much of the laborsaving technology developed in recent years will not be extensively adopted without such institutional changes as program modifications and alteration of tobacco buying practices and without some changes in long-standing customs in the tobacco trade.

MANPOWER IMPLICATIONS OF TRENDS IN THE TOBACCO INDUSTRY

Talk By
Robert C. McElroy
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At the
Association for Public Program Analysis Conference
U.S. Civil Service Commission
Washington, D. C.

June 16, 1969

Tobacco has resisted mechanical harvesting more than any other major field crop. The crop is produced primarily in the Southeastern States. Some parts of the production belt, such as the flue-cured areas of North Carolina and adjacent counties in South Carolina, constitute some of the more heavily populated rural areas in the United States. Much of this population currently relies, in one way or another, on full or part-time employment in the tobacco industry.

Two prototype mechanical harvesters appeared in the flue-cured belt in 1967; subsequently, agricultural engineers have proclaimed that mechanical harvesting of tobacco is operationally feasible. This development, has occurred at a time when farm wage rates are increasing, modifications in the tobacco program are permitting -- on a very limited basis -- transfer and consolidation of allotments, harvesting aids are being used more frequently, and sale of untied tobacco is being allowed. Taken together, these developments have resulted in the expectations of rather widespread reduction in

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[1] Prepared at the request of the Bureau of Training, U.S. Civil Service Commission, this paper draws freely on the work of an ERS task group on this subject. All use of data and ideas in the form presented is the sole responsibility of the author, however, and does not necessarily represent the views of the ERS Task Group or the Department of Agriculture.

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employment as the industry becomes much more mechanized. The expected resulting displacement of workers, provision of available alternative employment opportunities for them, their qualifications for such employment, and provision of other means of livelihood for the aged or otherwise not immediately employable portend problems of substantial proportions.

There is also a possibility that the burley tobacco industry will become mechanized in the future. However, the current fragmentation of allotments and lack of transfer options under government programs combined with seemingly lesser advances in the development of a mechanical harvester for this crop indicate that mechanization of the burley tobacco industry is a more distant prospect than mechanization in the flue-cured industry. Therefore, the remainder of this discussion pertains to the flue-cured tobacco industry; it does have implications for the burley industry, however, because of the many similarities in programs, farm structure, organization, and human resources involved.

There appears to be far more interest and concern over impending mechanization of flue-cured tobacco than was the case with cotton and many other crops succumbing to mechanization over the past two decades. Presumably, this is because there is now greater awareness of the adversities stemming from past displacement and consequent migration in conjunction with the mechanization of the other crops, particularly cotton, although such adversities have never been completely evaluated. There is also widespread realization of the relatively close geographical concentration of the people involved and the consequent high degree of local income dependency on the tobacco crop.

In any event, many important questions are being asked. The two most frequent ones appear to be: (1) How soon will the industry be mechanized? and (2) How many people are going to be displaced?

While these questions are most appropriate, they involve too many facets, including public policy, to be answered with accuracy. However, some estimates can and have been made, based on certain assumptions. These estimates, of course, have the usual significant short-comings: the assumptions may be incorrect; or they may often be ignored in subsequent discussions, statements, or reports concerning the estimates. One estimate indicates a potential displacement of about 150,000 farm jobs in the flue-cured tobacco industry in perhaps the next 6 years, assuming that harvesters are perfected and that small manufacturers are induced to produce them 2/. (The market is not considered large enough for the large farm equipment makers to be involved at this point.)

The estimated loss of 150,000 farm jobs appears conservative if relatively full mechanization occurs in 6 years (by 1975). Because of the highly seasonal nature of the crop, there would likely be a greater number of people affected than the job concept appraoch may imply, because most hired workers in flue-cured tobacco (about 215,000) are only casually or seasonally employed at this work.

Moreover, the assumption itself of rather full mechanization by 1975 appears highly questionable, for several reasons. First, while the mechanical harvester is operationally feasible, it has not yet been perfected and has a low degree of economical feasibility under the current tobacco program.

2/ Bruce Biossat, Black Exodus, Washington Daily News Circa., May 16, 1969.

The current price of the harvester, which has about a 40-acre capacity, is about $12,000. Cost of the related bulk curing barns is about $40,000 (10 barns at $4,000 each). Thus, the system requires a capital outlay of at least $52,000, in addition to the cost of land and other production costs. It appears that, to be profitable, mechanical harvesters must be operated at or near capacity. While some farmers may be able to attain capacity use through custom work or joint ownership of machines, these avenues appear limited because of (1) the small size of most tobacco operations relative to available family labor, (2) traditional American farmer independence which has resulted in very limited joint ownership of equipment among farmers, and (3) cost of the bulk barns required with mechanical harvesting and the capital already invested in equipment and fixtures currently in use.

Second, the acquisition and consolidation of production units, which is the generally accepted way of acquiring an economic unit in agriculture, has rather formidable restraints. The average size of flue-cured allotments which are derived from a national acreage-poundage quota, is about 3.1 acres under the current tobacco program. Only about 1 percent of all flue-cured allotments are as large as 20 acres. While size of allotment is not synonymous with size of the production unit, because of the renting and leasing provisions, it suffices to indicate clearly that unless the price of harvesters and related curing plants can be drastically reduced, substantial adjustments to increase the size of production units are necessary. Currently, a farmer who wishes to increase his quota may: (1) rent acreage allotment and poundage quota from another, but such tobacco must be produced on the farm to which the allotment is assigned 3/; (2) lease and transfer acreage and poundage quota from one farm to another within the same county on a 1 year basis, but the tobacco acreage on the producing farm after the transfer cannot exceed 50 percent of the cropland; or (3) purchase a farm that has an acreage allotment and poundage quota.

In addition to the capital considerations already discussed, current concern over the effects of smoking on health may affect demand for this product and so introduces another element of risk which may serve as a further deterrent to the third alternative.

Third, and most important, is the direction of public policy in relation to the tobacco program.

While it is generally agreed that programs, like other social instruments, tend to become institutionalized, it also appears that their re-evaluation and modification, if found needed, is more generally acceptable and hence effectable in times of significant change. This appears to be such a time for the flue-cured tobacco industry; and I assume I am expected to discuss some alternatives which may be subsequently analyzed systematically and in depth by the experts sponsoring this conference. From that standpoint, the big factor -- now that mechanization is technically possible -- seems to be the functioning of the tobacco program in this evolving situation.

If the current tobacco program should prove sufficiently flexible and profitable to enable consolidation and mechanization by those farmers with sufficient financial resources and managerial abilities, part of the end

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3/ Provisions are made for moving the allotment if the entire farm is rented.

result -- under the current national quota -- would be production of the same amount of tobacco but by fewer people. If the released human resources could then be rewardingly reallocated to the production of goods in greater demand, this would be an improvement in production efficiency resulting in increased GNP and a social gain. And if these accomplishments are possible, then the possibility of dispensing with the national quota and striving for a greater share of the export market -- in view of the increased efficiency of tobacco production and the consequent further addition to the gross national product, appears to be worthy of consideration as a long-run goal; and as such, also within the perview of social costs analysts.

In either case, and in the short-run, there appear to be sufficient barriers to the effective and rewarding reallocation of the human resources released to warrant detailed consideration and analysis of the situation. Neither time nor information available for the preparation of this paper were sufficient for that purpose. Both were sufficient, however, to indicate that productive employment alternatives for many of the potential displacees may be difficult. Some severe adversities are in the offing which will increase the social cost of education, training, and welfare programs. This raises the serious question of whether or not rapid mechanization and displacement would in the short-run result in a social gain or a social loss. The following overview of the area and people who would be affected is directed to this question.

Labor Force and Economic Activity

Approximately 4.1 million people were living in the five major flue-cured tobacco areas of the Southeast in 1966. 4/ This was an 8.1 percent population increase from 1960. In 1960, the farm segment of the population was about 900,000 persons, or 22 percent of the total.

Net outmigration occurred for the study area generally, and totaled about 69,500 persons from 1960 to 1966. Numbers ranged from a net outflow of 25,400 in the Tidewater North Carolina production area to a net inflow of 8,600 people in the Florida portion of the Georgia-Florida area.

Nonagricultural employment in the study area in mid-March 1967 was about 1,353,000. Of this total, manufacturing was the largest category, with 407,000 workers. Combined with a total of 203,000 in the five areas whose chief activity is farm employment, civilian employment totaled 1,556,000. 5/ This accounted for 96 percent of the total civilian labor force of 1,621,000 in 1967; the remaining 4 percent or 65,000 persons were unemployed. At this level, the unemployment rate did not differ significantly from the national average of 3.8 percent in 1967.

The highly rural character of the region is evidenced by the high proportion of the work force (65 percent) located in nonmetropolitan areas. Yet, in 1967, agriculture accounted for only 13 percent of total employment.

4/ The 5 areas are (1) Piedmont, Va.-N.C., (2) Coastal Plain, N.C., (3) Tidewater, N.C., (4) Pee Dee-Lumber River, N.C.-S.C., and (5) Ga.-Fla.

5/ Because of the seasonal nature of farmwork, few, if any, of seasonal hired workers in tobacco (about 200,000) would have been employed at this time (March). Because the "chief activity" of most such workers at this time of the year is "student," "keeping house," or otherwise "not in the labor force," few would appear among the unemployed. Also, family workers who help out on the farm during school vacations would not have been counted.

Between 1962 and 1967, all major nonfarm industries experienced growth, with manufacturing providing the greatest increase in new jobs. Along with increases in population and industrial activity, there has been growth in the civilian labor force -- up 13.2 percent during 1962-67.

Unemployment in the area between 1962 and 1967 declined from 5.8 to 4.0 percent. The drop in metropolitan areas was from 4.3 to 2.9 percent; in nonmetropolitan areas, from 6.1 to 4.6 percent.

Thus, there has been a substantial improvement in the level of economic activity and in the employment situation in the flue-cured tobacco area during the 1960's. Yet, a net outmigration of people continued. The latter, however, needs to be appraised in conjunction with the high labor replacement rates prevailing in the area. These are a result of both (1) the above average fertility rates of the area population and (2) the general reduction in farm employment.

With the potential for substantial further reductions in farm employment in the near future, emphasis needs to be placed on continuous and rapid nonfarm job expansion if the area is to provide work for its growing labor force.

For displaced farmworkers, the most probable alternative employment appears to be in manufacturing, since it is the largest industry in the area and has a large proportion of blue-collar jobs. Next to manufacturing, trade and service are the two industries which have the largest number of jobs offering potential absorption of displaced farmworkers.

Trade utilizes a large proportion of relatively low-skilled sales and clerical workers, as well as semiskilled route and delivery men. Many service industries require large proportions of relatively unskilled service workers and some semiskilled blue-collar and clerical-sales personnel. The transportation industries and to a lesser extent construction (which requires a large proportion of highly skilled workers) may offer limited employment opportunities. Government, communication, and finance-insurance-real estate offer farmworkers less opportunity for employment because they employ a larger proportion of skilled clerical and professional workers.

With population, labor force, and employment in nonfarm activities increasing while unemployment has declined significantly and out-migration has slackened, economic activity in the Southeast has been brisk. The impact on economic activity from an unusually large displacement of job holders from tobacco production can be only partially assessed at this time. Data are limited on the social and economic characteristics of farmworkers, and the demand for and job requirements of new employment opportunities.

The total number of farm operators in the study area who reported growing tobacco in 1954 was 105,000, or 73 percent of all farm operators. Of the tobacco growers, 84,245 (80 percent) were classified as commercial growers. The remainder were operators of part-time, part-retirement, or "other" farms reporting some tobacco production. 6/

Of the tobacco farmers in the five production areas, 30 percent were nonwhite and 70 percent were white. The tenure status of the nonwhite commercial operators were full owners, 16 percent; part-owners, 18 percent and tenants, 66 percent. In contrast, the status of white operators was full owners 29 percent, part-owners 34 percent; and tenants, 37 percent. Thus, consolidation of tobacco production into larger units and mechanization of harvest will clearly cause a greater displacement of tenants than of other classes of farm operators.

6/ Commercial tobacco farms as defined in the U.S. Census of Agriculture are those farms with farm sales amounting to $2,500 or more with tobacco contributing 50 percent or more of this value and farms with from $50 to $2,499, of which 50 percent or more of the sales were from tobacco, provided that the farm operator is under 65 years of age and did not work off farm 100 or more days.

Part-time tobacco farms are those with a value of farm product sales of $50 to $2,499, if tobacco accounts for 50 percent or more of this value and if the operator is under 65 years of age and works off the farm 100 or more days.

Part-retirement tobacco farms are defined as those with a value of farm product sales of $50 to $2,499; if 50 percent or more of this value is derived from sale of tobacco and if the operator is 65 years old or over.

Other farms do not correspond to any single Census farm class definition. Their number (13,000) represents the difference between the number of all farms reporting growing tobacco in the study area (105,000) and the summation of commercial, part-time and part-retirement tobacco farms (92,000). These farms, therefore, represent tobacco but specialized in some other product or group of products.

The generally recognized low educational attainment and lack of saleable skills of tenants, and, often, their age, portend problems in obtaining alternative employment and considerable public outlays for education, training, and welfare programs. However, many of the other tobacco farmers appear to be in a similar condition. An evaluation of data available indicates the average age of the commercial tobacco farmer is about 47 years. This contrasts with an average age level of about 37 years for the total U.S. labor force. More significantly, the average amount of schooling attained by these farmers is about 7.6 years; the corresponding educational attainment of the total U.S. labor force is 12.2 years. Thus, the average flue-cured tobacco farmer is older and possess, on the average, a little less than a grade school education while the average person in the total labor force is younger and a high school graduate. Therefore, displaced tobacco farmers would appear considerably disadvantaged in competing for nonfarm employment.

The educational attainment of the household population (about 250,000 excluding operators) of commercial farm operators is also low. Indications are, however, that younger members have higher levels of educational attainment.

Two other types of tobacco farmers who have not been included in the foregoing discussion are part-time and part-retirement farmers. Operators of these types of farms in the delineated belt plus their household population totaled about 40,000 persons. As a group, these operators are older and have even less education than do the commercial farm operators.

Hired workers are highly important in the present method of producing tobacco. An estimated 215,000 of these workers (200,000 casual and seasonal and 15,000 regular workers) are employed in the belt at some time during the year. They have not entered into the foregoing discussion because information on their social and economic characteristics is totally absent. In fact, even the number of those who do casual and seasonal work is an estimate. Judging from data which are available on the characteristics of the Nation's hired farm working force, as a group, and for the region containing the tobacco belt, hired workers in flue-cured tobacco production have low amounts of schooling and contain a high proportion of Negroes. 7/ Many of these workers will be among the first to be displaced. Innovations occuring in the warehousing and processing facets of the industry will also displace hired workers.

7/ The Hired Farm Working Force of 1967, A Statistical Report, USDA, ERS, AER No. 148, September 1968.

A Socio-Economic Profile of the 1965 Farm Wage Force, USDA-ERS, AER No. 157, April 1969.

Problems and Needs

The total absence of data on hired workers and a limited amount on others employed in tobacco in combination with the lack of information on job requirements of growing industries offering potential employment prohibits the kind of evaluation this matter demands. Data are required for determining such points as:

--How many potential displacees will not be retrainable and therefore potential welfare recipients?

--Cost of this potential welfare caseload?

--Estimated job growth (and decline) by industry and area.

--Job requirements of expanding industries.

--Number requiring further education and/or training or retraining?

--Cost of this education and training?

--Potential social returns on education and training.

The fact that such information is not available, especially in view of the magnitude of innovation and displacement in agriculture during the past several decades, poses a serious question about the balance of social direction. On the one hand, the development of technology has been and is being financed by federal funds. It is by no means limited to the development of mechanical harvesters. Other developments in labor-reducing technology in tobacco, for example, include the following:

--disease resistant and uniform ripening varieties

--seedling production (chemical sterilization of plant beds in lieu of burning to prevent disease and reduce weeding labor requirements)

--transplanting (mechanical transplanters and direct field seeding)

--chemical growth regulators ("Suckers') and weed control.

--improvements in on farm curing (electronic temperature control and bulk curing)

--handling methods (mechanization in the marketing sector--lifts, conveyors, etc.)

The USDA and every Experiment Station (Federally supported) in the tobacco States has now and has had for years a research program for the development of tobacco labor-saving technology and for other crops. There are comparable efforts in the Land Grant system in all other States for the important crops grown.

On the other hand, I do not know of one Experiment Station which has a program of concerted effort conducive to facilitating the adjustment of people displaced from agricultural employment. For that matter, aside from the small ERS group surveying the situation, I know of no such effort at the Federal level. This is not a criticism of efforts devoted to the development of labor-saving technology; the benefits are sufficiently well-known that they require no enumeration here. In view of the foregoing enumeration of the paucity of information on those displaced and the consequent and as yet non-quantifiable social cost, however, I do question the balance in direction of national social efforts.

Senator **Stevenson**. Do you know of any research, any study, either in the USDA or in the land-grant college complex with attention being given to the welfare of these 150,000 people?

Mr. **Hightower**. No; I do not. I would add to that figure of 150,000 small farmers the families of the farmers. They will be forced off the land too.

Do you know of any compensatory research for these people?

Ms. **DeMarco**. I do not; but I do know that the Agriculture Research Service within USDA has contracted with the University of Kentucky for somewhere close to a million dollars worth of research in the past 2 years for tobacco. It is not all on mechanization, but it all has to do with the problems of the tobacco industry.

I have not run across a research project in any of the land-grant colleges that has in any way considered the people displaced by the tobacco harvester. In fact, the attitude seems to be in most of the publications a sense of pride that universities have "freed" agricultural labor, and that does not mean only migrants but farmers, to do other things. They are proud of the fact.

Senator **Stevenson**. You know of no study by the Extension Services to help family farmers adapt to changing conditions in rural America?

Ms. **DeMarco**. Not usually. Out of 15,000 extension agents, approximately 500 are in the area of rural development. Some of these people are concerned with workers, but generally they are considered the responsibility of some other agency, such as the Department of Labor, Manpower programs or HEW programs.

In fact, I have had people at the extension services say to me in interviews that the migrant worker is just not one of their concerns; that even though he is physically inside the agriculture world, he is not really a concern to them.

Senator **Stevenson**. Mr. Hightower, you mentioned earlier in your statement that automated agriculture also affects the quality, the taste, even the nutritional value of food. Are there activities in USDA or the land-grant college complex devoting attention to that problem?

Mr. **Hightower**. There is very little nutrition research at all. We have in the report a chart showing the allocation in 1969 of scientific man-years to USDA categories of research. The food and nutrition category had only 117 scientific man-years out of a total of 6,000 for all research.

But even more significant is the quality of that nutrition research. When they say nutrition research, sometimes that is a useless probing into nutrition habits, a probing of diets—stuff that we have known for years, things that are in every seventh grade text book about how we are supposed to eat green vegetables.

There is a great deal of research on the buying habits of people, things in that category. Food is being redesigned genetically, ripened chemically, and harvested mechanically—all through research at land-grant colleges. The purpose of that is to rush nature and eliminate labor, getting produce from the farms and into the supermarkets at the earliest possible moment with the minimum of labor.

For years these food engineers have claimed that their product gave up nothing in nutrition or taste.

At the University of California at Davis, where they developed a tomato harvester and developed the hard tomato, they now have decided that their food in fact does not taste as good.

So they have isolated some 70 chemicals out of the good old fashioned garden variety tomato that caused taste in food, and they are now going to try to redesign the taste back into the hard tomato.

Senator **Stevenson**. It has been suggested before in testimony that the land-grant college complex devotes a good deal of its energy toward improving the appearance of food but oftentimes at a sacrifice of quality, and it has been suggested that the consumer suffers because oftentimes food which is not in its appearance attractive is nutritionally better and cheaper.

Would you comment on that suggestion?

Mr. **Hightower**. I know that the National Consumers League is going to testify, so I will not dwell on that.

Again, food is not designed at land-grant colleges for nutrition and taste; it is designed for the comfort and the convenience of the agribusiness corporation and the marketing process.

There is a good deal of research on what is called cosmetics in food: development of red wax to be put on apples, development of chemicals that will assure that chicken skins have a nice yellow tinge that the consumer is supposed to like.

They harvest many tomatoes green, so to turn them red they spray ethylene gas, which is a natural plant hormone. This hormone is applied either in the field just before harvest or while in storage vans and in transit to the market.

There is no adequate evidence, and certainly no adequate research, on whether or not the tomato actually ripens, in the sense that it generates the proper amounts of vitamin A, vitamin C, and the various other nutrients that the tomato is supposed to have; but at least the tomato turns red.

They have done research that—I know Cornell University was doing it—that has to do with supermarket displays and use of lighting in the displays so that food looks more attractive. I think that is done at a lot of land-grant colleges. We have come across a number of examples without really trying to dig them out.

Senator **Stevenson**. You have given us a bill of particulars which is something of an indictment of the land-grant college complex. I am not sure what relief you are demanding.

What should the land-grant college complex be doing?

You mentioned $750 million a year in public funds. How can those funds be better directed in order to benefit farmworkers, family farmers, and the consumer?

Mr. Hightower. I think that there are very specific things that can be done. We have suggested some of them in the report. Certainly a good deal of what can be done is suggested by what they either are now doing or what they are not doing.

Primarily I think there has to be a change of focus, a decision to concentrate on people rather than leaving them to some vague concept of trickle down benefits. Research should focus first on the needs of people. Systems and corporations can adapt to those needs.

One fundamental way to change the focus is to shake up the advisory structure, shake up the way the research is planned, from the national level right on down to the local experiment station.

I think that involves the Secretary of Agriculture, shaking up his National Agricultural Research Advisory Committee. It is dominated now by corporations. The farmers are not there, the family farmers. The consumers are not represented. Farmworkers, environmentalists and other legitimate interests are not involved. I think if you are going to change the focus of research, you must allow more people to participate.

Senator Stevenson. There is evidence in recent years that the merchandising activities of corporations have led to a large increase in the use of inorganic fertilizers. We are also told that the use of these fertilizers has had some adverse environmental consequences. At the same time that the consumption of inorganic fertilizers has been increasing, we are producing large quantities of organic waste which I am told could be used for fertilizer.

The Metropolitan Sanitary District in the Chicago area produces huge quantities of sludge, and it has great difficulty disposing of sludge. It is now experimenting, in cooperation with the National Park Service and others, to develop a means of using this waste material to reclaim strip mined land in Illinois. The results so far indicate potential use for this otherwise oftentimes wasted material for the reclamation of land.

I am not an engineer or chemist, but on the basis of those experiments I wonder if these surplus organic wastes might not have agricultural applications?

Is this the kind of thing that the land-grant college within its statutory charge could be helping the country to develop, the use of surplus organic wastes for land reclamation for agricultural purposes?

Would that be within the statutory charge of the land-grant college complex?

Mr. HIGHTOWER. Absolutely. I think that is the kind of creative suggestion and the kind of leadership that land-grant colleges ought to be providing.

They are in fact doing some of that, but, again, it is not enough just to do research without consideration of who benefits. What they have done at Oregon State University is to bring sludge out of the cities to arid areas in eastern Oregon, spreading it on the land. By bringing it up river on barges, they are reclaiming the arid land, which is a wonderful concept, a very good thing to do.

I think it could help a lot of farmers, but instead of doing it for the farmers, they are doing it for Boeing Aircraft Corp., which has decided to invest some of its massive capital in potato farming in Oregon. They have bought 50,000 acres and develop their land and establish a major potato operation out there.

Undoubtedly marketing arrangements and all kinds of integrated processes will allow them to be very big in the potato world.

That might be nice except there are hundreds of small potato farmers in eastern Oregon and Idaho who are in miserable straits right now. The land grant college decided to focus on Boeing Aircraft rather than those farmers.

A creative, scientific idea like that has to be applied to people. I agree with you that that is one of the things that they ought to be doing, but they have to focus that on people rather than on the corporation.

Senator STEVENSON. You are not just cutting off all extension and research services. It is really a redirection of those services to try to benefit people to a greater extent than now.

Mr. HIGHTOWER. That is right. We are not at all interested in dismantling this research component or even the extension service, which comes closest to being irrelevant than any other part of this complex.

It could serve very usefully; it is urgently needed in rural America, but it is being really tragically misspent.

Senator STEVENSON. If the activities of the land-grant college complex were redirected in some of the ways you have suggested, do you believe the out migration from rural to urban areas might continue for other reasons?

Mr. HIGHTOWER. I think there are other factors forcing the outmigration, but the point is there is nobody working on those factors.

I understand last month the average income received by farmers finally reached the 1951 price level, but in the meantime his costs went up 40 percent. Why isn't the land-grant college working on lowering costs of production to help that farmer stay in business?

In other words, if the land-grant colleges do not focus on the needs of rural people, but choose to continue to focus on the development of corporate agriculture, then it is inevitable that we are all going to live in urban centers. But if land-grant colleges decide people want something else in rural America, that we want agriculture to be a way of life as much as it is a way of business—which is not necessarily at odds—then the land-grant colleges are going to have to begin to focus on those farmers. It is time their attention was focused on the critical needs of rural America instead of dealing with the needs of corporations, which ought to be doing their own research.

So I think it can make a difference.

Senator STEVENSON. Is it not true that only about 15 percent of the consumer's food costs are attributable to the production of food at the beginning of the food chain? The balance of the high costs which the housewife pays in the grocery store are attributable to other costs at other stages of the food chain; is that right?

Should not the land-grant college complex be examining that whole food production system and striving for a means of making it more efficient?

Mr. HIGHTOWER. I think it is an inefficient marketing system.

Senator STEVENSON. Testimony before the subcommittee certainly indicates that the family farm is probably the most efficient unit of production in our whole economy, but beyond the family farm, in the other steps of the total process, it is not an inefficient system. Is that not something the land-grant colleges should be addressing themselves to?

Mr. HIGHTOWER. I think that the land-grant colleges have been far too attentive to the needs of agricultural input and output corporations should be looking into that other 85 percent and the Safeway or Del Monte or Tenneco or Ralston Purina are massive agribusinesses. Many of these corporations have research components of their own. They are capable of taking care of their own research needs. They should be doing their own research. They are capable of doing it.

The people in rural America, particularly farmers and farmworkers and small businessmen in small towns in rural America, do not have this private capability. They are the ones that need the public investment. They are the ones that the land-grant college complex was created to assist.

Senator STEVENSON. We had better move on to our other witnesses. Thank you very much, Mr. Hightower, and Ms. DeMarco. You have made a most important contribution to a very much-needed dialog on the changes occurring in rural America, and the reasons for those changes.

(The prepared statement of Jim Hightower and Ms. DeMarco along with other information follows:)

Statement of
Jim Hightower and Susan DeMarco
Agribusiness Accountability Project
before the
Senate Subcommittee on Migratory Labor
June 19, 1972

HARD TOMATOES, HARD TIMES

The Agribusiness Accountability Project appreciates the Subcommittee's invitation to present testimony this morning on the very important issue of the failure of America's land grant college complex.

I am Jim Hightower, Director of the Agribusiness Accountability Project. With me is Ms. Susan DeMarco, Research Associate with the Project. We are testifying this morning in behalf of the Project's Task Force on the Land Grant College Complex. I served as Director of the Task Force, and Ms. DeMarco was Research Coordinator. Attached to our statement is a brief description of the Agribusiness Accountability Project and of the Task Force.

On May 31st of this year, the Task Force released its preliminary report, HARD TOMATOES, HARD TIMES. This report is an independent examination of the land grant-agricultural complex, located in every state of the union and including colleges of agriculture, agricultural experiment stations and state extension services. The report is focused primarily on the research effort of this complex.

The message of HARD TOMATOES, HARD TIMES is that the tax-supported, land grant complex has come to serve an elite of private, corporate interests in agriculture, while ignoring those who have the most urgent needs and the most legitimate claims for assistance.

Mr. Chairman, as the Des Moines Register editorialized a couple of weeks ago, this message "will not be received by people in [rural] areas as a startling revelation." In fact, there is nothing in our report that most rural constituencies don't at least suspect, nothing that any other independent examination of the complex would not have picked up. The failure of the complex is obvious---it is written in the land grant community's own materials. More tragically, it is written all over rural America. Go out there and ask family farmers, farm workers, independent bankers, small town mayors, struggling cooperatives, organic producers and the majority of other rural Americans what their land grant complex has done for them. You might also ask what that complex has done to them.

Rural America is in crisis. Family farmers are squeezed between low prices for their products and the skyrocketing cost of doing business, with 2,000 of them a week being squeezed right out of business. The plight of farm workers is the shame of our nation. Rural towns are without sewerage systems, without adequate housing, without medical facilities and increasingly without people. Some 800,000 rural people every year are packing into already-gorged urban areas, with less than two percent of our land straining to accomodate 73 percent of our people.

Where has the land grant college complex been? The most damning failure of the complex is its total abdication of leadership. At a time when rural America desperately needs scientific and intellectual attention to meet critical needs, the land grant community has its head in the sand, preoccupied with narrow concepts of efficiency and productivity.

The complex has been eager to work with farm machinery manufacturers and well-capitalized farming operations to mechanize all agricultural labor, but it has accepted no responsibility for the farm laborer who is put out of work by the machine. It has worked hand-in-hand with seed companies to develop high-yield strains, but it has not noticed that rural America is yielding up practically all of its young people. It has been available day and night to help nonfarming corporations develop schemes of vertical integration, while offering independent family farmers little more comfort than "adapt or die." It has devoted hours to create adequate water systems for fruit and vegetable canners, but 30,000 rural communities still have no central water systems. It has tampered with the gene structure of tomatoes, strawberries, asparagus and other foods to prepare them for the steel grasp of the mechanical harvestors, but it has sat still while the American food supply has been laced with carcinogenic substances.

The primary beneficiaries of land grant research are agribusiness corporations. These interests envision rural America as a factory that will produce food, fiber and profits on a corporate assembly line extending from the fields through the supermarket checkout counter. Through mechanical, chemical and managerial research, land grant colleges are coming close to that agribusiness ideal.

Genetically redesigned, mechanically planted, thinned and weeded, chemically readied and mechanically harvested and sorted, food products move out of the field and into the processing and marketing stages---untouched by human hands.

Land grant researchers are at work today on literally every need of corporate agriculture, meeting their needs and whims with tax dollars. Schemes to assist feed companies to vertically integrate hog farmers are being developed; new packages are designed for marketing corporations; cosmetics are researched to contribute to consumer appeal of food items; computer checkout systems are designed for supermarkets; brand name canners are assisted with new processing methods; and giant chemical corporations receive exclusive licenses to produce and sell publically-researched chemicals.

Service to agribusiness is not by coincidence. In dozens of ways, corporate agribusiness gets into the land grant complex. It is welcomed there by administrators, academics, scientists and researchers who share the agribusinessman's vision of integrated, automated agriculture. Corporate executives sit on college boards of trustees, purchase research from experiment stations, hire land grant academics as private consultants, advise and are advised by land grant officials, go to Washington and state capitols to urge more public money for land grant research, publish and distribute the writings of academics, provide scholarships and other educational support, invite land grant participation in their industrial conferences and sponsor foundations that extend both grants and recognition to the land grant community.

Money is the web of the tight relationship between agribusiness and the land grant complex. It is not that a huge sum of money is given---industry gave $12 million directly to state experiment stations for research in 1969. Rather it is that enough money is given to influence research done with public funds.

At least 23 land grant colleges have established private, tax-exempt foundations to handle grants and contracts coming into their institutions for research. Through these curious mechanisms, a funding source gives money to be funneled to a public university to conduct research. By this shell game, private research can be undertaken without obligation to report publically the names of the corporations that are making research grants, the amounts of those grants, the purpose of those grants or the terms under which the grants are made.

These foundations also handle patents for the colleges. When a corporation invests in research through a foundation, it is done normally with the understanding that the corporation will have first shot at a license on any patented process or product that results. On research patents that do not result from corporate grants, the procedure for licensing is just as cozy. At Purdue University, for example, a list is drawn of "responsible" companies that might have an interest in the process or product, and the corporations are approached one by one until there is a taker.

Mr. Chairman, where does the corporation end and the land grant college begin? It is difficult to find the public interest in this tangle. These ties to agribusiness raise the most serious questions about the subversion of scientific integrity and the selling of the public trust.

It is not easy to know what the land grant complex is and what it is doing. For example, most agricultural experiment stations offer an annual report in compliance with the Hatch Act disclosure provisions, but these reports are less than enlightening. Data is not supplied uniformly, it is not collected in a central location and it either is not reported or is reported in a form that cannot easily be obtained or understood. Furthermore, fundamental questions go unasked and fundamental facts go unreported.

The land grant college complex has been able to get by with a minimum of public disclosure, and that has meant that the community has been able to operate with a minimum of public accountability.

There is nothing inevitable about agribusiness domination of agriculture. While this country enjoys an abundance of food, it is not more food, not cheaper food and certainly not better food than that which can be produced by a system dominated by family agriculture. And much more than hard tomatoes rolls off the agribusiness assembly line---rural refugees, boarded-up businesses, deserted churches, abandoned towns, broiling urban ghettoes and dozens of other tragic human, social and cultural costs also are products of agribusiness. The land grant community's preoccupation with corporate agribusiness has been an inefficient public investment.

HARD TOMATOES, HARD TIMES is not simply an attack on the land grant college complex. We have not spent nine months on this inquiry just so we could exchange press releases with the land grant establishment. The American taxpayer is laying out some $750 million a year that simply is not being spent in the public interest. More important, people are being hurt by this expenditure. It is a situation that cries out for national attention.

Had the land grant community chosen to put its time, its money, its expertise and its technology into rural people, rather than into corporate pockets, then rural America today would be a place where millions could live and work in dignity. It is time to reorient the colleges so that they will begin to act in the public interest.

It is likely that the land grant establishment, from Secretary Butz on down, will come into this hearing tomorrow with the same, tired recitation of benefits from agricultural research. They undoubtedly will produce an array of charts and rhetoric, mounting a defense based on their old standbys of "efficiency", "productivity" and "cheap food." That is all they can do. That is the same old stuff they feed Congress every year at appropriations time.

What we have done in HARD TOMATOES, HARD TIMES, and what others have tried to point out before us, is to suggest that there are enormous costs involved in the land grant community's narrow definitions of "efficient", "productive" and "cheap." Is it efficient to depopulate rural America and to concentrate food production in the hands of corporate America? Does productivity have to mean the elimination of 2,000 independent farmers each week, displacement of all agricultural labor and poisioning of land and food? Even assuming low supermarket prices, is food cheap when it is hard, tasteless and possibly dangerous?

Mr. Chairman, it is the fondest hope of the land grant establishment that HARD TOMATOES, HARD TIMES will just pass by, that there will be no hard and continuing look at their closed world. It is essential that this Subcommittee, that all of

Congress and that state legislatures make thorough investigations of the work that the taxpayer is funding through the land grant complex. Agricultural research, extension and education is having an enormous impact in this country. It is essential that there be a thorough accounting, with careful consideration of the costs, as well as the benefits.

Of course, this Subcommittee has been in the lead on this issue, and I urge you to continue your probe. In particular, I hope that you might take these hearings into the countryside and onto a couple of land grant campuses. Out there you can talk with people who cannot come to Washington, and you can get a better feel for the impact of this agricultural complex.

AGRIBUSINESS ACCOUNTABILITY PROJECT
TASK FORCE ON THE LAND GRANT COLLEGE COMPLEX

Funded by the Field Foundation, the Agribusiness Accountability Project is an independent, non-partisan, non-profit organization that is sponsored by the Center for Community Change and the Project on Corporate Responsibility. The Project, created in October, 1970, is based in Washington, D.C. and is engaged in public interest research, advocacy and education on the issues of corporate involvement in rural America.

The Project's Task Force on the Land Grant College Complex has worked for nine months to research and write the preliminary report, HARD TOMATOES, HARD TIMES. The Task Force conducted extensive research in Washington, D.C., had contact with most land grant colleges, and did research directly on nine land grant campuses. In addition, interviews were held with dozens of constituent interests in rural America. Research data used in the report primarily is that produced by USDA and the land grant complex.

Members of the Task Force either are or have been associated with the Agribusiness Accountability Project, the Center for Community Change or the Migrant Legal Action Program:

--Jim Hightower. Director, Agribusiness Accountability Project.

--Susan DeMarco. Government Research Associate, Agribusiness Accountability Project.

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A Summary of

HARD TOMATOES, HARD TIMES

The Failure of the Land Grant College Complex

Written by Jim Hightower

Preliminary Report
of the Task Force on
the Land Grant College Complex

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INTRODUCTION

Corporate agriculture's preoccupation with scientific and business efficiency has produced a radical restructuring of rural America that has been carried into urban America. There has been more than a "green revolution" out there -- in the last thirty years there literally has been a social and economic upheaval in the American countryside. It is a protracted, violent revolution, and it continues today.

The land grant college complex has been the scientific and intellectual father of that revolution. This public complex -- composed of colleges of agriculture, agricultural experiment stations and state extension services -- has put its tax dollars, its facilities, its manpower, its energies and its thoughts almost solely into efforts that have worked to the advantage and profit of large corporations involved in agriculture.

The consumer is hailed as the greatest beneficiary of the land grant college effort, but in fact, consumer interests are considered secondarily, if at all, and in many cases, the complex works directly against the consumer. Rural people, including the vast majority of farmers, farm workers, small town businessmen and residents, and the rural poor, either are ignored or directly abused by the land grant effort. Each year about a million of these people pour out of rural America into the cities. They are the waste products of an agricultural revolution designed within the land grant complex. Today's urban crisis is a consequence of failure in rural America. The land grant complex cannot shoulder all the blame for that failure, but no single institution -- private or public -- has played a more crucial role.

The complex has been eager to work with farm machinery manufacterers and well-capitalized farming operations to mechanize all agricultural labor, but it has accepted no responsibility for the farm laborer who is put out of work by the machine. It has worked hand-in-hand with seed companies to develop high-yield seed strains, but it has not noticed that rural America is yielding up practically all of its young people. It has been available day and night to help nonfarming corporations develop schemes of vertical integration, while offering independent family farmers little more comfort than "adapt or die." It has devoted hours to create adequate water systems for fruit and vegetable processors and canners, but 30,000 rural communities still have no central water systems. It has tampered with the gene structure of tomatoes, strawberries, asparagus and other foods to prepare them for the steel grasp of the mechanical harvestors, but it has sat still while the American food supply has been liberally laced with carcinogenic substances.

The land grant complex, as it is known today, has wandered a long way from its origins, abandoning its historic mission to serve rural people and American consumers.

The Report

HARD TOMATOES, HARD TIMES is a preliminary report of the Task Force on the Land Grant College Complex. The Task Force was created by the Agribusiness Accountability Project, a public interest research and advocacy organization based in Washington, D.C. In addition to research conducted in Washington and by correspondence, the Task Force effort included research on the campuses of the University of California, Cornell University, University of Florida, Iowa State University, University of Maryland, Michigan State University, North Carolina State University, Purdue University and Texas A & M University.

This preliminary report is an independent examination of America's land grant college-agricultural complex. The message of the report is that the tax-paid, land grant complex has come to serve an elite of private, corporate interests in rural America, while ignoring those who have the most urgent needs and the most legitimate claims for assistance.

It is the objective of the Task Force to provoke a public response that will help realign the land grant complex with the public interest. In a recent speech on re-ordering agricultural research priorities, the Director of Science and Education at the U.S. Department of Agriculture (USDA) said that, "the first giant steps are open discussion and full recognition of the need." The report is dedicated to that spirit.

The Land Grant College Complex

As used throughout the report, "land grant college complex" denotes three interrelated units, all attached to the land grant college campus:

A. Colleges of Agriculture--created in 1862 and 1890 by two separate Morrill Acts.

B. State Agricultural Experiment Stations--created in 1887 by the Hatch Act for the purpose of conducting agricultural and rural research in cooperation with the Colleges of Agriculture.

C. Extension Service--created in 1914 by the Smith-Lever Act for the purpose of disseminating the fruits of teaching and research to the people in the countryside.

Reaching into all 50 states, the complex is huge, intricate and expensive. It can be estimated that the total complex is approaching an expenditure of three quarters of a billion tax dollars appropriated each year from federal, state and county governments. The public's total investment in this complex, including assets, comes to several billion dollars in any given year, paying for everything from test tubes to experimental farms, from chalk to carpeting in the dean's office.

The Research Effort

It is practically impossible to talk with anyone in the land grant college complex or to read anything about the complex without getting a mindful of the staggering achievements wrought by agricultural research. There is no doubt that American agriculture is enormously productive and that agriculture's surge in productivity largely is the result of mechanical, chemical, genetical and managerial research conducted through the land grant college complex.

But the question is whether the achievements outweigh the failures, whether benefits are overwhelmed by costs. It is the finding of the Task Force that land grant college research is not the bargain that has been advertized.

The focus of agricultural research is warped by the land grant community's fascination with technology, integrated food processes and the like. Strict economic efficiency is the goal, not people. The distorted research priorities are striking:

-- 1,129 scientific man-years (smy) on improving the biological efficiency of crops, and only 18 smy on improving rural income.

-- 842 smy on control of insects, diseases and weeds in crops, and 95 smy to insure food products free from toxic residues from agricultural sources.

-- 200 smy on ornamentals, turf and trees for natural beauty, and a sad seven smy on rural housing.

-- 88 smy on improving management systems for livestock and poultry production, and 45 smy for improving rural institutions.

-- 68 smy on marketing firm and system efficiency, and 17 smy on causes and remedies of poverty among rural people.

In fiscal year 1969, a total of nearly 6,000 scientific man-years were spent doing research on all projects at all state-agricultural experiment stations. Based on USDA's research classifications, only 289 of those scientific man-years were expended specifically on "people-oriented" research. That is an allocation to rural people of less than five percent of the total research effort at the state agricultural experiment station (see Figure 1).

An analysis of these latter research projects reveals that the commitment to the needs of people in rural America is even less than appears on the surface. In rural housing, the major share of research has been directed not to those who live in them, but to those who profit from the construction

FIGURE 1

SCIENTIFIC MAN YEARS OF "PEOPLE-ORIENTED" RESEARCH CONDUCTED AT STATE AGRICULTURAL EXPERIMENT STATIONS---1966 and 1969

Research Problem Areas	1966 SMY at SAES	1969 SMY at SAES
--Food Choices, Habits & Consumption	8	11.5
--Home & Commercial Preparation of Food	14	12.4
--Human Nutritional Well-being	103	93.5
--Selection & Care of Clothing and Household Textiles	18	15.0
--Housing Needs of Rural Families	11	6.5
--Family Decision Making and Financial Management	20	16.0
--Causes and Remedies of Poverty Among Rural People	11	17.1
--Improvement of Economic Opportunities for Rural People	42	27.7
--Communication Processes in Rural Life	17	18.3
--Individual & Family Adjustment to Change	28	25.6
--Improvement of Rural Community Institutions & Services	29	45.3
TOTAL SMY ALLOCATED TO "PEOPLE" RESEARCH	301	288.9*

*This allocation of scientific man years indicates how meager the commitment to "people-oriented" research really is in comparison to the land grant community's rhetoric of concern. The experiment stations actually were doing less people-oriented research in 1969 than they were in 1966. The 289 SMY allocated to people in 1969 represents only 4.8 percent of the total of 5956 SMY expended that year at state agricultural experiment stations.

Sources: USDA. Science and Education Staff. "Inventory of Agricultural Research, fy 1969 and 1970." October 1970. pp. 247-278. And, USDA-NASULGC. "A National Program of Research for Rural Development and Family Living." November 1968. pp.5, 28 and 29.

and maintenance of houses -- architects, builders, lumber companies and service industries.

Other "people-oriented" projects tend to be irrelevant studies of characteristics stemming more from curiosity than a desire to change conditions. At Cornell, for example, a study found that "employed homemakers have less time for housekeeping tasks than nonemployed homemakers." Other projects are just as irrelevant:

-- Mississippi State University researchers discovered "that families in poverty are not of a single, homogeneous type"

-- the University of Nebraska is at work on a study of "factors affecting age at marriage"

-- a Cooperative Regional Research study unveiled two findings of such significance that Dr. Roy Lovvorn included them in CSRS' 1970 presentation to Congress: "the rural population is dichotomous in racial composition" and "pre-retirement family incomes have a direct bearing upon economic expectations for retirement"

-- Back at Mississippi State, researchers concluded that "the better educated young individuals are able to recognize and take advantage of economic opportunities attainable through migration"

-- University of Nebraska researchers surveyed football coaches in the state and got 60 percent agreement "that introduction of a federally sponsored school breakfast program would benefit the nutritional health of teenage athletes."

Again and again, the point is made that industry needs help because it cannot do its own research and because it is affected by external factors. People, however, are responsible for their own condition. For one, public research assistance is considered an investment; for the other, that assistance is treated as welfare.

Mechanization Research

The primary beneficiaries of land grant research are agribusiness corporations. These interests envision rural America solely as a factory that will produce food, fiber and profits on a corporate assembly line extending from the fields through the supermarket checkout counters. It is through mechanization research that the land grant colleges are coming closest to this agribusiness ideal.

Mechanization means more than machinery for planting, thinning, weeding and harvesting. It also means improving on nature's design, i.e., breeding new food varieties that are better adapted to mechanical harvesting. Having built machines, the land grant research teams found it necessary to build a tomato that is hard enough to survive the grip of mechanical "fingers"; necessary to redesign the grape so that all the fruit has the good sense to ripen at the same time; and necessary to restructure the apple tree so that it grows shorter, leaving the apples less distance to fall to its mechanical catcher. Michigan State University, in a proud report on "tailor-made" vegetables, notes that their scientists are at work on broccoli, tomatoes, cauliflower, cucumbers, snapbeans, lima beans, carrots and asparagus.

If it cannot be done by manipulating genes, land grant scientists reach into their chemical cabinet. Louisiana State University has experimented with the chemical "Ethrel" to cause hot peppers to ripen at the same time for "once-over" mechanical harvesting; scientists at Michigan State University are using chemicals to reduce the cherry's resistance to the tug of the mechanical picker; and a combination of ferric ammonia citrate and erythorbic acid is being used at Texas A & M to loosen fruit before machine harvesting.

Once harvested, food products must be sorted for size and ripeness. Again, land grant college engineers have produced a mechanical answer. North Carolina State University, for example, has designed and developed an automatic machine "which dynamically examines blueberries according to maturity." The University of California and other colleges have scientists at work on machinery that will sort tomatoes.

Genetically redesigned, mechanically planted, thinned and weeded, chemically readied and mechanically harvested and sorted, food products move out of the field and into the processing and marketing stages -- untouched by human hands.

Who is helped and who is hurt by this research and development?

It is agribusiness that is helped. In particular, the largest-scale growers, the farm machinery and chemical input companies and the processors are the primary beneficiaries. Big business interests are called upon by land grant staffs to participate directly in the planning, research and development stages of mechanization projects. The interests of agribusiness literally are designed into the product. No one else is consulted.

Obviously, farm machinery and chemical companies are direct beneficiaries of this research, since they can expect to market products that are developed. Machinery companies such as John Deere, International Harvester, Massey-Ferguson, Allis-Chalmer and J.I. Case almost continually engage in cooperative research efforts at land grant colleges. These corporations contribute money and some of their own research personnel to help land grant scientists develop machinery; in return, they are able to incorporate technological advances in their own products. In some cases they actually receive exclusive license to manufacture and sell the product of tax-paid research.

Mechanization of fruits and vegetables have focused first on crops used by the processing industries. Brand name processors -- such as Del Monte, Heinz, Hunt, Stokely Van-Camp, Campbell's and Green Giant -- are direct beneficiaries of mechanization research. Many of these corporations have been directly involved in the development of mechanization projects. In addition to the food breeding aspects of mechanization, processors and canners also have benefitted insofar as mechanization has been able to lower costs of production and insofar as that savings has been passed on to them. Of course, many food processors also are growers -- either growing directly on their own land, or growing indirectly, controlling the production of others through contractual arrangements.

Large-scale farming operations, many of them major corporate farms, also are directly in line to receive the rewards of mechanization research. In the first place, it is these farms that hire the overwhelming percentage of farm labor, thus having an economic incentive to mechanize. Secondly, these are the massive farms, spreading over thousands of acres. This scale of operation warrants an investment in machinery. Thirdly, these are heavily-capitalized producers, including processing corporations, vertically integrated in-put and out-put industries and conglomerate enterprises. Such farming ventures are financially able and managerially inclined to mechanize the food system.

Then there are the victims of mechanization -- those who are directly hurt by research that does not consider their needs. If mechanization research has been a boon to agribusiness interests, it has been a bane to millions of rural Americans. The cost has been staggering.

Farm workers have been the earliest victims. Again and again the message is hammered home -- machines either exist or are on the way to replace farm labor. There were 4.3 million hired farm workers in 1950. Twenty years later, that number has fallen to 3.5 million. As a group, those laborers averaged $1,083 for doing farm work in 1970, making them among the very poorest of America's employed poor. The great majority of these workers were hired by the largest farms, which are the same farms moving as swiftly as possible to mechanize their operation.

Farm workers have not been compensated for jobs lost to mechanization research. They were not consulted when that research was designed, and their needs were not a part of the research package that resulted. They simply were left to fend on their own -- no retraining, no effort to find new jobs for them, no research to help them adjust to the changes that came out of the land grant colleges. Corporate agribusiness received a machine with the tax-payer's help, but the workers who are replaced are not even entitled to unemploy compensation.

Independent, family farmers -- at least those who have sales under $20,000 a year (which includes 87 percent of all U.S. farms) -- also have been victimized by the pressure of mechanization, and their needs also have been largely ignored by the land grant colleges.

Mechanization has been a key element in the cycle of bigness: enough capital can buy machinery, which can handle more acreage, which will produce greater volume, which can mean more profits, which will buy more machinery. Mechanization has not been pressed by the land grant complex as an alternative, but as an imperative.

Mechanization research by land grant colleges either is irrelevant or only incidentally adaptable to the needs of some 87 to 99 percent of America's farmers. The public subsidy for mechanization actually has weakened the competitive position of the family farmer. Taxpayers, through the land grant college complex, have given corporate producers a technological arsenal specifically suited to their scale of operation and designed to increase their efficiency and profits. The independent, family farmer is left to strain his private resources to the breaking point in a desparate effort to clamber aboard the technological treadmill.

Like the farm worker, the average farmer is not invited into the land grant laboratories to design research. If he were, the research "package" would include machines useful on smaller acreages, it would include assistance to develop cooperative ownership systems, it would include efforts to develop low-cost and simpler machinery, it would include a heavy emphasis on new credit schemes, and it would include special extension to spread knowledge about the purchase, operation and maintenance of machinery. In short, there would be a deliberate and major effort to extend mechanization benefits to all, with an emphasis on at least maintaining the competitive position of the family farm in relation to agribusiness corporations. These efforts do not exist, or exist only in a token way. Mechanization research has left the great majority of farmers to "get big" on their own, or to get out of farming altogether.

Mechanization also has a serious impact on the consumer, and that impact puts America's "bargain" food prices in serious doubt. Land grant researchers are not eager to confront the question of quality impact of mechanization, choosing instead to dwell on the benefits that food engineering offers agribusiness.

The University of Florida, for example, recently has developed a new fresh market tomato (the MH-1) for machine harvesting. In describing the characteristics that make this tomato so desirable for machine harvest, the University pointed to "the thick walls, firm flesh, and freedom from cracks." It may be a little tough for the consumer, but agricultural research can't please everyone. The MH-1, which will eliminate the jobs of thousands of Florida farm workers who now hand-pick tomatoes for the fresh market, is designed to be harvested green and to be "ripened" in storage by application of ethylene gas.

Agribusiness Versus Consumers

Convenience to the processor often outweighs taste for the consumer. For example, University of Wisconsin researchers have developed a process of making mozarella cheese in 5-1/2 minutes, compared to the usual time of four hours. The flavor of the final product is reported to be "mild, but satisfactory for the normal uses."

The colleges also are engaged in "selling" the consumer on products he neither wants nor needs, and they are using tax money for food research and development that should be privately financed. At Virginia Polytechnic Institute, for example, eight separate studies have been conducted to determine if people would like apple and grapefruit juice blended.

Another aspect of selling the consumer is "knowing" him. There are many projects that analyze consumer behavior. Typically these involve consumer surveys to determine what influences the shopper's decision-making. If this research is useful to anyone, it is food marketers and advertisers, and reports on this research make clear that those firms are the primary recipients of the results. The corporations who benefit from this research should pay for it and conduct it themselves.

The consumer is not just studied and "sold" by land grant research; he is also fooled. These public laboratories have researched and developed food cosmetics in an effort to confirm the consumer's preconceptions about food appearances, thus causing the consumer to think that the food is "good." Chickens have been fed the plant compound Xanthophyll to give their skin "a pleasing yellow tinge," and several projects have been undertaken to develop spray-on coatings to enhance the appearance of apples, peaches, citrus and tomatoes. Other cosmetic research projects that are underway at land grant colleges include:

-- Iowa State University is conducting packaging studies which indicate that color stays bright longer when bacon is vacuum-packed or sealed in a package containing carbon dioxide in place of air, thus contributing to "more consumer appeal"

-- Because of mechanical harvesting, greater numbers of green tomatoes are being picked; scientists at South Carolina's agricultural experiment station have shown that red flourescent light treatment can increase the red color in the fruit and can cause its texture and taste to be "similar to vine-ripened tomatoes"

-- Kansas State University Extension Service, noting that apples sell on the basis of appearance rather than nutrition, urged growers to have a beautiful product. To make the produce more appealing, mirrors and lights in supermakret produce cases were cited as effective selling techniques.

Sold, studied, and fooled by tax-supported researchers, there finally is evidence that the consumer actually is harmed by food engineering at land grant colleges.

Ethylene gas, used to speed up the growth of produce (at University of California small, green figs were brought to full size and ripeness in seven days -- 58 days sooner than naturally ripened figs), has been shown, when used on tomatoes, to provide lower quality with less vitamin A and C and inferior taste, color and firmness.

There is strong evidence the DES, which is a growth hormone fed to cattle to make them grow faster, causes cancer in man. Yet DES has added some $2.9 million to the treasury of Iowa State University, where the use of the drug was discovered, developed, patented and promoted -- all with tax dollars. Eli Lilly and Company, which was exclusively licensed by Iowa State to manufacture and sell the drug, has enjoyed profits on some $60 million in DES sales to date.

More and more, chemicals are playing a role in the processing phase. Ohio State University reports that "chemical peeling of tomatoes with wetting agents and caustic soda reduces labor by 75 percent and increases product recovery." One wonders if the consumer will recover. Lovers of catfish might be distressed to know that this tasty meat now is being skinned chemically for commercial packaging.

Three assumptions are made by the Task Force. First, if there is to be research for firms that surround the farmer, benefits of that research should flow back to the farmer. Secondly, no public money should be expended on research that principally serves the financial interests of agricultural in-put and out-put corporations -- they may be a part of modern agriculture, but they also are very big business and capable of doing their own profit-motivated research. Finally, anything that is good for agribusiness is not necessarily good for agriculture, farmers, rural America or the consumer.

Research of the Absurd

There are some land grant research projects that boggle the mind. At Cornell a critical issue has been how hard to squeeze a grapefruit in the supermarket:

> Should you squeeze a product firmly or softly to determine its freshness, such as is commonly done with bread and some fruits? By using a universal testing machine, scientists have determined that a gentle squeeze, or more scientifically, a small deformation force, is much more precise in comparing textural differences than a firm squeeze or large deformation force.

Among other absurd, land grant college projects, Auburn and Penn State have used tax dollars to study "heat-retaining properties" of Astroturf; the University of Wisconsin has turned to camping for a research challenge; and Purdue has spent years and untold tax dollars on athletic turfs for football fields and golf courses. While researchers play around with games and recreation, rural America is left to fall apart.

Failure of Land Grant College Research

Except for agribusiness, land grant college research has been no bargain. Hard tomatoes and hard times is too much to pay.

That does not mean a return to hand plow. Rather, it means that land grant college researchers must get out of the comfortable chairs of corporate board rooms and get back to serving the independent producer and the common man of rural America. It means returning to the historic mission of taking the technological revolution to all who need it, rather than smugly assuming that they will be unable to keep pace. Instead of adopting the morally bankrupt posture that millions of people must "inevitably" be squeezed out of agriculture and out of rural America, land grant colleges must turn their thoughts, energies and resources to the task of keeping people on the farm, in the small towns and out of cities. It means turning from the erroneous assumption that big is good, that what serves Ralston Purina serves rural America. It means research for the consumer rather than for the processor. In short, it means putting the research focus on people first -- not as a trickle-down after thought.

The greatest failing of land grant research is its total abdication of leadership. At a time when rural America desparately needs leadership, the land grant community has ducked behind the corporate skirt, mumbling apologetic words like "progress," "efficiency" and "inevitability." Overall, it is a pedantic and cowardly research system, and America is less for it.

A change in the focus of land grant research will not happen simply because it should happen. Change will come only if those interests now being abused by the research begin to make organized demands on the complex. If independent family farmers, consumers, small town businessmen, farm workers, environmentalists, farmer cooperatives, small town mayors, taxpayers' organizations, labor unions, big city mayors, rural poverty organizations and other "outsiders" will go to the colleges and to the legislatures, changes can occur. These interests need not go hand in hand, but they all must go if land grant college research ever is to serve anyone other than the corporate elite.

Making Research Policy

The short range research policy of the land grant system is the product of the annual budgeting process and the substance of that research budget is determined by the Agricultural Research Policy Advisory Committee (ARPAC), which reports directly to the Secretary of Agriculture. Its members are taken from USDA and the land grant community; in fact, they are the agricultural research establishment.

The National Association of State Universities and Land Grant Colleges is the home of the land grant establishment. Their particular corner in the Association is the Division of Agriculture, composed of all deans of agriculture, all heads of state experiment stations and all deans of extension. With eight members on the 24-man ARPAC board, NASULGC's Agricultural Division plays a major role in the determination of research priorities and budgets. The division also represents the land grant college complex before Congress on budget matters.

The top rung on the advisory ladder is USDA's National Agricultural Research Advisory Committee. This eleven-member structure currently includes representatives from the Del Monte Corporation, the Crown Zellerbach Corporation, AGWAY, Peavey Company Flour Mills, the industry-sponsored Nutrition Foundation and the American Farm Bureau Federation.

Most national advisory structures are dominated by land grant scientists and officials, but whenever an "outsider" is selected, chances are overwhelming that the person will come from industry. A series of national task forces, formed from 1965-1969 to prepare a national program of agricultural research, were classic examples of this pattern. Out of 32 task forces, 17 listed advisory committees containing non-USDA, non-land grant people. All but one of the outside slots on those 17 committees were filled with representatives of industry, including General Foods on the rice committee, U.S. Sugar on sugar, Quaker Oats on wheat, Pioneer Corn on corn, Liggett & Myers on tobacco, Procter & Gamble on soybeans and Ralston Purina on dairy. Only on the "soil and land use" task force was there an advisor representing an interest other than industrial, but even there, the National Wildlife Federation was carefully balanced by an advisor from International Minerals and Chemical Corporation.

There are also state and local advisory structures to the land grant complex. Commenting on such groups and their impact on the allocation of research resources, USDA's Roland Robinson wrote that:

> Many of the advisory groups, similar to those of the Department of Agriculture, are established along commodity and industry lines. Consequently they are oriented toward traditional research needs. The rural nonfarmer, the small farmer, the leaders of rural communities and the consumer are not usually represented on experiment-station advisory committees.

Land grant policy is the product of a closed community. The administrators, academics and scientists, along with USDA officials and corporate executives, have locked themselves into an inbred and even incestuous complex, and they are incapable of thinking beyond their self-interest and traditional concepts of agricultural research.

The Congressional Failure

Congress holds hearings each year on the appropriations request for agricultural research. It is here that the public might expect some serious questioning of research focus and some assertion of other than private interests. It does not happen.

Hearings on agricultural research budgets are left pretty much to the land grant community, buttressed by its agribusiness colleagues. The appropriations process falls far short of being a careful, substantive scrutiny -- in fact, it is little more than a chance for special interests to press for particular research projects or facilities.

Public witnesses appearing before the agricultural subcommittees overwhelmingly represent agribusiness interests. Technically, anyone can testify, but it is industry that has the resources to maintain Washington representatives and to fly witnesses in and out of the Capitol for a day of testimony. There are dozens of agribusiness lobbyists in Washington, ranging from the full-scale operation of the American Farm Bureau Federation to covies of Washington "lawyers" retained to look out for the special interests of practically every corporate name in agriculture.

The few Washington organizations representing the interests of farmers, sharecroppers, small businesses, the poor, minorities, consumers, environmentalists and other people either do not have the resources and staff to deal effectively with the agricultural research budget or have failed to perceive their self-interest in that budget. Tax-exempt, public interest groups are prohibited by law from lobbying and cannot appear to testify on appropriations unless invited to do so by the committee.

There are hundreds of pages of testimony on the land grant complex each year, but no tough questioning of how those resources are being used. With 2,000 farm families leaving the land each week, with some 800,000 people a year being forced out of rural America and with all the other stark evidence of rural failure, it seems that some representative of the people would probe a bit into the nature and impact of the land grant complex.

Congress has relinquished its responsibility and authority to narrowly-focused officials at USDA and within the land grant community. Like spokesmen of the military-industrial complex, these officials and their allies come to the Capitol at appropriations time to assure a docile Congress that its investment in agricultural hardware is buying "progress" and that rural pacification is proceeding nicely.

Agribusiness Links to Land Grant Campuses

In dozens of ways, agribusiness gets into the land grant college complex. It is welcomed there by administrators, academics, scientists, and researchers who share the agribusinessman's vision of integrated, automated agriculture. Corporate executives sit on boards of trustees, purchase research from experiment stations and colleges, hire land grant academics as private consultants, advise and are advised by land grant officials, go to Washington to help a college or an experiment station get more public money for its work, publish and distribute the writings of academics, provide scholarships and other educational support, invite land grant participation in their industrial conferences and sponsor foundations that extend both grants and recognition to the land grant community.

Money is the web of the tight relationship between agribusiness interests and their friends at the land grant colleges. It is not that a huge sum of money is given -- industry gave only $12 million directly to state agricultural experiment stations for research in 1969. Rather it is that enough money is given to influence research done with public funds.

But to a larger extent, agribusiness was welcomed into the community because its attitudes and objectives were shared by the land grant communities. Agribusiness corporations wanted help with their new chemical, with their hybrid seed, with their processing facility, or with their scheme for vertical integration. The scientists, engineers and economists of the land grant community had both the tools and the inclination to deal with those needs.

Industry money goes to meet industry needs and whims, and these needs and whims largely determine the research program of land grant colleges. A small grant for specific research is just good business. In the first place, the grant is tax deductible either as an education contribution or, if the research is directly related to the work of the corporation as a necessary business expense. Secondly, the grant will draw more scientific attention than its value warrants. One scientist will consult with another, graduate assistants and other personnel will chip in some time and overhead expenses cannot be figured precisely. If the project is at all interesting, it will be picked up and carried on by someone working under a public budget or assigned to someone working on a Ph.D. Finally, not only is the product wrapped and delivered to the corporation, but with it comes the college's stamp of legitimacy and maybe even an endorsement by the scientist who conducted the research. If it is a new product, the corporation can expect to be licensed, perhaps exclusively, as the producer and marketer. Everything considered, it amounts to a hefty return on a meager investment.

There is a long list of satisfied, corporate customers. As would be expected, half of industry's research contributions to state agricultural experiment stations in fiscal year 1969 went to just four categories: insect control, weed control, plant and animal biology and biological efficiency.

Prime contributors are chemical, drug and oil corporations. Again and again the same names appear -- American Cyanamid, Chevron, Dow Chemical, Esso, Eli Lilly, Geigy, FMC-Niagra, IMC Corporation, Shell, Stauffer, Union Carbide and The Upjohn Company are just a few of the giants that gave research grants to each of three colleges checked (University of Florida, North Carolina State University and Purdue University). Chemical, drug and oil companies invested $227,158 in research at Florida's Institute of Food and Agricultural Science, for example, accounting for 54 percent of research sponsored there by private industry in 1970.

Where does the corporation end and the land grant college begin? It is difficult to find the public interest in that tangle. These ties to industry raise the most serious questions about the subversion of scientific integrity and the selling of the public trust. If grants buy corporate research, do they also buy research scientists and agricultural experiment stations?

Land Grant Research Foundations

At least twenty-three land grant colleges have established foundations to handle grants and contracts coming into their institutions for research. These quasi-public foundations are curious mechanisms, handling large sums of money from a wide array of private and public donors, but under practically no burden of public disclosure.

A funding source can give money to a private research foundation, which then funnels the money to a public university to conduct research. By this shell game, industry-financed research can be undertaken without obligation to make public the terms of the agreement. The foundation need not report to anyone the names of corporations that are making research grants, the amounts of those grants, the purpose of those grants or the terms under which the grants are made.

These foundations also handle patents for the colleges. When a corporation invests in research through a foundation, it is done normally with the understanding that the corporation will have first shot at a license on any patented process or product resulting from the research. On research patents that do not result from corporate grants, the procedure for licensing is just as cozy. At Purdue University, for example, a list is drawn of "responsible" companies that might have an interest in the process or product developed, and the companies are approached one by one until there is a taker.

Extension Service

The Extension Service (ES) is the outreach arm of the land grant college complex. Its mandate is to go among the people of rural America to help them "identify and solve their farm, home and community problems through use of research findings of the Department of Agriculture and the State Land Grant Colleges."

Three hundred thirty-one million dollars were available to the Extension Service in 1971. Like the other parts of the land grant complex, Extension has been preoccupied with efficiency and production -- a focus that has contributed much to the largest producers, but which has slighted the pressing needs of the vast majority of America's farmers, and ignored the great majority of other rural people.

Like their research and teaching colleagues in the land grant complex, extension agents walk hand in hand with agribusiness. To an alarming degree, extension agents are little more than salesmen. A recent article in FARM TECHNOLOGY, the magazine for county agents, offers this insight into corporate ties to Extension:

> "We are impressed with the fact that much time is spent working closely with industry agri-fieldmen and other company representatives. Nearly all states reported that this type of cooperation is increasing.
>
> A good example of this can be found in Arizona where weed specialists 'hit the road' with the chemical company representatives and are involved in cooperative field tests and demonstrations."

Extension Service has not lived up to its mandate for service to rural people. The rural poor, in particular, are badly served by the service, receiving a pitiful percentage of the time of extension "professionals," while drawing bandaid assistance from the highly-visible nutrition aides program and irrelevant attention from the 4-H program. In 1955, a Special Needs Section was added to Extension legislation, setting aside a sum of money to assist disadvantaged areas. Extension has failed to make use of this section.

The civil rights record of ES comes close to being the worst in government. Policy-making within ES fails to involve most rural people, and USDA has failed utterly to exercise its power to redirect the priorities and programs of the state extension services.

The Extension Service's historical and current affiliation with the American Farm Bureau Federation casts a deep shadow over its claim that it can ever be part of the solution of the problems of rural America.

Black Land Grant Colleges

In 1862, at the time of the first Morrill Act, 90 percent of America's black population was in slavery. The land grant colleges that developed were white bastions, and even after the Civil War, blacks were barred from admission both by custom and by law. When the second Morrill Act was passed in 1890, primarily to obtain more operating money for the colleges, Congress added a "separate but equal" provision authorizing the establishment of colleges for blacks. Seventeen Southern and Border states took advantage of the Act, creating institutions that still are referred to euphemistically as "colleges of 1890."

The black colleges have been less than full partners in the land grant experience. It is a form of institutional racism that the land grant community has not been anxious to discuss. From USDA, resource allocations to these colleges are absurdly discriminatory. In 1971, of the $76,800,000 in U.S. Department of Agriculture funds allocated to those sixteen states with both white and black land grant colleges, 99.5 percent went to the white colleges, leaving only 0.5 percent for the black colleges. Less than one percent of the research money distributed by the Cooperative State Research Service in 1971 went to black land grant colleges. This disparity is not by accident, but by law.

Public Disclosure

It is difficult to discover what the land grant complex is and what it is doing. For example, most agricultural experiment stations offer an annual report in compliance with the Hatch Act disclosure provisions, but these reports are less than enlightening:

--Some do not list all research projects, but merely list highlights

-- Some list research projects, but only by title, without even a brief description

--Most do not include money figures with the individual projects, and very few reveal the source of the money

--None contain any element of project continuity to show the total tax investment over the years in a particular investigation

--Most contain only a very general financial breakdown, listing state, federal and "other" funds received and expended

--Few offer any breakdown of industry contributions, naming the industry, the contribution and the project funded

These are the basic facts. There is no listing of more esoteric items, such as patents developed by the station and held by the college, or advisory structures surrounding the stations.

Data is not supplied uniformly, it is not collected in a central location and it either is not reported or is reported in a form that cannot be easily obtained or understood. Even more significant is the fact that many fundamental questions go unasked and fundamental facts go unreported.

Millions of tax dollars annually are being spent by an agricultural complex that effectively operates in the dark. It is not that the land grant community deliberately hides from the public. The farmer, the consumer, the rural poor and others with a direct interest in the work of the land grant complex can get no adequate picture of its work. Congress is no help: it does not take the time to probe the system, to understand it in detail and to direct its work in the public interest.

The land grant college complex has been able to get by with a minimum of public disclosure, and that has meant that the community has been able to operate with a minimum of public accountability.

Conclusion

There is nothing inevitable about the growth of agribusiness in rural America. While this country enjoys an abundance of relatively cheap food, it is not more food, not cheaper food and certainly not better food than that which can be produced by a system of family agriculture. And more than food rolls off the agribusiness assembly line -- rural refugees, boarded-up businesses, deserted churches, abandoned towns, broiling urban ghettoes and dozens of other tragic social and cultural costs also are products of agribusiness.

Had the land grant community chosen to put its time, its money, its expertise and its technology into the family farm, rather than into corporate pockets, then rural America today would be a place where millions could live and work in dignity.

The colleges have mistaken corporate need for national need. This is proving to be a fatal mistake -- not fatal for the corporations or for the colleges, but for the people of America. It is time to correct that mistake, to reorient the colleges so that they will begin to act in the public interest.

Recommendations

The Task Force on the Land Grant College Complex does not presume to prescribe an agenda for the land grant college complex. That is the proper role of constituencies with a direct interest in the work of the complex.

Rather, the Task Force seeks through its recommendations to open the closed world of the land grant complex to public view and to participation by constituencies that today are locked out.

Generally, these recommendations call for a full-scale public inquiry, both in the Congress and state legislatures, regarding the nature, extent, and national impact of the land grant complex. There should be a General Accounting Office audit of the land grant complex. An immediate reopening of the hearings on the 1972-73 agricultural research budget by the House and Senate is also necessary. Also, the Secretary of Agriculture should immediately act to restructure the national advisory and policy-making apparatus so that there is a broadened in-put from "outside" constituencies for research planning.

The Task Force calls for an immediate end to racial discrimination within the land grant complex, withholding federal money from any state which does not place its black institutions on an equal footing with the white colleges.

Legislation is also needed which would prohibit land grant officials and other personnel from receiving remuneration in conflict of interests; prevent corporations from earmarking contributions to the land grant complex for specific research that is propriety in nature; ensure that land grant patenting practices do not allow private gain from public expenditures.

Laws requiring full public disclosure from the land grant complex are of crucial importance. Detailed, complete and uniform reports from each college should be filed annually with the Secretary of Agriculture, who should compile them and make them easily available to the public.

The land grant colleges must get out of the corporate board rooms, they must get the corporate interests out of their labs, and they must draw back and reassess their preoccupation with mechanical, genetical and chemical gadgetry. The complex must again become the people's university -- it must be redirected to focus the preponderance of its resources on the full development of the rural potential.

THE NEW YORK TIMES, T[illegible]NE 1, 1972

Study Finds Agricultural Colleges Fail to Aid Consumers or Rural Towns

By WILLIAM ROBBINS

Special to The New York Times

WASHINGTON, May 31 — The big agriculture and technical universities of the United States have strayed so far from their original research mission of aiding consumers and rural communities that they injure the people they were intended to serve, a study by a public-interest research organization has found.

As a result, the group said in a report released today, those institutions have been largely responsible for troubles in rural areas that have generated major problems in the cities.

The group, the Agribusiness Accountability Project, said that the big universities had focused on research that favored big, agriculture-oriented corporations and the biggest producers while neglecting the more numerous small farmers, farm workers and others in rural communities and nearly ignoring the interests of consumers.

A Six-Month Study

About a million displaced people a year are pouring into the cities as "the waste products of an agricultural revolution designed within the land-grant [college] complex," the report said, adding:

"Today's urban crisis is a consequence of failure in rural America. The land-grant complex cannot shoulder all the blame for that failure, but no single institution — private or public—has played a more crucial role."

At a news conference on the report called today by the research team, Henry Fortmann, northeast regional coordinator for the universities' experiment stations, rose to deplore the study, which he charged derided serious and dedicated researchers. He said, however, that he had not read the report.

Meanwhile, a spokesman for the National Association of State Universities and Land Grant Colleges, which represents the institutions studied, said: "The association believes the report requires careful study and it intends to analyze its contents fully before responding to them in detail." He issued a preliminary statement for the association saying:

"Great agricultural achievements are not accomplished without some side-effects, and the accusation that the land-grant colleges and universities have been taken over by the great food conglomerates and have driven the little farmer out of business tends to overlook the dazzling array of abundant foods this cooperation has made available."

The report, titled "Hard Tomatoes, Hard Times," documents the findings of a six-month study. It will be the basis of a lawsuit planned by the Agribusiness Accountability Project against public and educational officials involved. It will also be the subject of hearings called today by Senator Adlai E. Stevenson 3d, Democrat of Illinois, who is chairman of the Senate Labor Committee's Subcommittee on Migratory Labor.

The study was made by a team of 12 researchers headed by James Hightower, who is the director of the project and the author of the report.

The research group is a Washington-based organization financed by the Field Foundation and sponsored by the Ford Foundation. It is often mistaken for efforts started by Ralph Nader, the consumer advocate, but they are unrelated even though their aims and techniques are similar.

Following are the major charges contained in the report:

The land-grant institutions' research has focused on projects that primarily aid agribusiness and the biggest producers, such as a two-story factory at Cornell that tests manufacturing methods for processers and, elsewhere, the development of big and costly planting and harvesting machinery.

A "cozy" relationship exists between land-grant researchers and big companies like the Chemagro Corporation, which was cited as obtaining a university study of one of its chemical products for a contribution of $500,000. The report said corporate benefits to land-grant personnel such as consultant fees raised serious questions of conflict of interest.

The institutions abuse the consumer by breeding crops primarily for easier harvest by the big machines, with little regard for quality or food value. It cited the "hard" tomato, developed by the University of Florida for mechanical picking.

Many projects, called "research of the absurd," are merely frivolous, such as a mechanical test to calibrate how hard shoppers should squeeze a grapefruit to determine its firmness and texture.

Consumer Welfare Cited

The concept of land grant colleges—schools endowed with public lands or the monetary equivalent and offering an opportunity for an education of the children of 19th-century farm and factory workers — originated in the Morrill Act of 1862. But the major provisions for research were made in the Hatch Act of 1887.

The Hatch Act provided for "researches basic to the problems of agriculture in the broadest aspects, and such investigations as have their purpose the development and improvement of the rural home and rural life and the maximum contribution by agriculture to the welfare of the consumer."

That is where the Land Grant system has failed, the research group charges. "It has abandoned that historic mission," the report said, continuing:

"In fact, consumer interests are considered secondarily, if at all, and in many cases the complex works directly against the consumer. Rural people, including the vast majority of farmers, farm workers, small town businessmen and residents, and the rural poor, are ignored or directly abused by the land-grant effort."

The report acknowledges: "American agriculture is enormously productive, largely due to research conducted through the land grant college complex." But it adds: "The question is whether the achievements outweigh the failures, whether benefits are overwhelmed by costs."

Severe Judgments Made

The report, though it makes frequent disclaimers of suspicion about the motives of its subjects, often uses harsh terms and makes severe judgments.

There has been little effort to develop machinery that small farmers—the vast majority—could afford to buy and use on limited acreage, it said.

And it reserved a large portion of criticism for the fact that only 5 per cent of the institutions' 6,000 man-years of research annually is divoted to "people-oriented" projects, such as plans to improve the quality of rural life.

Citing $750-million-a-year in public funds — Federal, state and county—going to the agricultural divisions of the colleges and to related experiment stations and research facilities, the research group asserted:

"The public has a right to expect that those intellectual and scientific resources be more than a subsidy for corporate agribusiness."

The report urged a new look at the priorities of the land-grant institutions, whith a view toward redirecting energies and resources. It said more emphasis should be put on ways to help people stay in their rural homes and to improve their circumstances.

It also urged legislation to prohibit private business from earmarking contributions for projects that would primarily serve their own interests and to prohibit professors and university officials from accepting fees or outside jobs that might create conflicts of interest.

The research team documented its charges with findings from a study of research reports from the universities themselves as well as with the results of interviews and investigations on several campuses.

Among projects that primarily serve big producers, the report cited those designed to mechanize the harvest of 25 food crops, from apples to tomatoes, with efforts often duplicated at several campuses. Five institutions, for example—the Universities of Arkansas and Illinois and Iowa States, Louisiana State and Ohio State — are at work on mechanizing the harvest of strawberries, it said.

Cornell, in addition to building its factory to test methods of production for food processors, studied, in cooperation with the National Association of Food Chains, the profitability of members' operations, the report said.

Similarly, it went on, Ohio State tested plastic-coated cartons for dairy products; Virginia Polytechnic Institute studied factors affecting the shelf life of sweet-potato flakes, and the University of Wisconsin developed a fast process to produce mozarella cheese that was "mild but satisfactory for normal uses."

"To a large extent," the report said, "agribusiness firms bought their way into the [land-grant] community." The researchers cited substantial totals of contributions, such as $227,158 in 1970 by chemical, oil and drug companies for research at the University of Florida's Institute of Food and Agricultural Sciences.

The individual grants found were usually small, but they apparently bought valuable research, such as the Chemagro Corporation test — also at the University of Florida — of "Chemagro 7375," an experimental nematacide or roundworm killer.

Cleansing Dogs' Teeth

Along with projects like the test for correct methods of squeezing a grapefruit, the report grouped efforts such as attempts at Michigan State University to breed a seedless cucumber and to cross broccoli with the white cauliflower to produce a green cauliflower. It could find little utility in either product.

In the same category it classed a Cornell study, made with a grant from Superior Pet Products, Inc., on the cleaning of dogs' teeth.

And of a number of studies on the development and care of golf course grasses and athletic-field turfs, including two on "the heat-retaining properties of artificial turf," the report said:

"These researchers are playing around with games while rural America falls apart."

Even among projects apparently aimed at aiding rural people, the report found first appearances often illusory. Among rural housing studies, for example, it found such projects as a test at Iowa State on the effect of foot traffic on wood floors. Most such studies, it said, proved on close examination to be a service to agribusiness.

Others, it said, were aimless repetitions of analyses of rural conditions—projects that "tend to irrelevant studies of characteristics," such as a University of Tennessee study to "determine the relationship of education to migration" and a University of Missouri study to "determine the typologies of poverty among rural peoples."

The implications for the rural poor, the report said, are these:

"If they stay in rural America, a rural sociologist will come around every now and then to poke at them with a surgery."

Agribusiness Bias Seen in Universities

THE WASHINGTON POST
A 2 Thursday, June 1, 1972
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By Nick Kotz
Washington Post Staff Writer

The nation's tax-supported land grant universities have served corporate agribusiness while neglecting the needs of consumers, family farmers, farm workers, and rural America, a report charged yesterday.

The land grant college complex—composed of colleges of agriculture, agriculture experiment stations and state extension services—are charged with spending annually almost $1 billion in tax dollars "almost solely for efforts that have worked to the advantage and profit of large corporations involved in agriculture."

The 308-page critical study was made by the Agribusiness Accountability Project, a nonprofit, research organization, financed principally by the Field Foundation, and interested in the problems of the rural poor.

Jim Hightower, the project director, said at a press conference that his group soon will file lawsuits against various land grant universities, to require them to stop serving special corporate interests at the expense of the public interest.

The report, entitled "Hard Tomatoes, Hard Times, The Failure of the Land Grant College Complex" variously asserts that:

- The land grant college complex has stimulated an agricultural scientific revolution which changed the face of rural America without devoting any attention to the needs of farmers, farm workers, consumers, and rural communities that have been adversely affected by that change. Even though the revolution in agriculture has enormously increased production, the gains in "strict economic efficiency" have been often offset by harm to "people."
- Of 8,000 scientific man-

government-financed agricultural research stations in 1969, only 289 hours were devoted to the needs of rural people and their communities.

- University research in cooperation with food corporations often has produced less desirable food for consumers such as "hard tomatoes," which were developed to withstand machine picking, or has produced harmful foods, such as cattle fattened with possible disease-producing chemicals.
- Corporate agribusiness has developed machinery with taxpayers' help, "but the workers who are replaced are not even entitled to unemployment compensation."
- The important advisory committees appointed by the Agriculture Department to supervise research have seldom had representation from "the rural nonfarmer, the small farmer, the leaders of rural communities, and the consumer."
- Land grant colleges and their officials are guilty of numerous conflicts of interest in their relationships with agribusiness corporation. "It is difficult to find the public interest," the report states, in relationships in which it is impossible to tell "where the corporation ends and the land grant college begins."
- The Agriculture Department's extension service has helped market agribusiness products, while failing to implement a 1955 law relating to special needs of rural people and communities.
- Black land grant colleges, created by an 1890 law in 16 southern and border states, are discriminated against in receiving less than one per cent of USDA funds allocated to land grants and agricultural research in those states.
- Land grant colleges are not required to make adequate public accounting of their activities, particularly those conducted in partnership with agribusiness corporations.

nity chosen to put its time, its money, its expertise, and its technology into the family farm rather than into corporate pockets," the report states, "then rural America today would be a place where millions could live and work in dignity. The colleges have mistaken corporate need for national need. This is proving to be a fatal mistake for the people of America. It is time to reorient the colleges to act in the public interest."

The study recommends:

- A General Accounting Office audit of the land grant complex.
- Reopening of congressional hearings on the 1972-73 agricultural research budget.
- Legislation prohibiting land grant personnel from receiving remuneration from agribusiness corporations in specified "conflicts of interest;" prohibiting corporations from earmarking research contributions for work in their own behalf; ensuring that land-grant patenting practices do not allow private gain from public expenditure.

"The land grant colleges must get out of the corporate board rooms," the report concluded. "They must get the corporate interests out of their labs. They must draw back and reassess their preoccupation with mechanical, genetical and chemical gadgetry. The complex must again become the people's university. It must be redirected to focus the preponderance of its resources on the full development of the rural potential."

The activities of Agriculture Secretary Earl Butz and his predecessor Clifford Hardin were cited in the report as an example of the close ties between agribusiness and the land grant colleges.

Butz and Hardin, to a certain extent, exchanged places as Hardin took the position being vacated by Butz on the board of directors of the Ralston Purina Co.

The report noted that Butz served as an officer of the

and Purdue University, and as a $10,000-a-year director of the International Minerals and Chemical Corporation at the same time that the corporation gave the university research funds, developed a product through university research, and received a patent on the product from the university research foundation.

At the same time Butz and his university had interrelated ties with IMC and other companies, the report says Butz was publicly advocating industry viewpoints with such statements as: "Caution must be exercised that we don't go overboard in our hysteria to clean up the environment and make everything absolutely safe."

In contending that many land grant research facilities "begin to look like laboratories for the chemical industry," the report cites a University of California professor who said that at his school, a recipient of $800,000 in funds from chemical companies in three years, "individuals are more loyal to the insecticide companies than to the university or the growers."

Among questionable development of chemicals by universities to serve commercial food interests, the report cited:

The use of ethrel at Louisiana State University to effect ripening of hot pepper; the use of ferric ammonia citrate and erythorbic acid at Texas A&M to loosen fruit before machine harvesting; the development by the University of Florida of "Thick-skinned" tomatoes which are then ripened in storage by application of ethylene gas.

In addition to developing products of questionable safety and edibility, the report contends that universities have helped agribusiness develop products to deceive consumers.

For example, the report cited Iowa State University studies which indicate bacon stays bright-colored longer when it is vacuum sealed on carbon dioxide and University

using a flourescent light treatment to increase the red color in green-picked tomatoes.

CHICAGO
SUN-TIMES
D. 536,108 SUN. 709,123

JUN 1 1972

Blast land-grant college programs

By William Hines
Sun-Times Bureau

WASHINGTON — The nation's land-grant colleges, agricultural experiment stations and state extension services were charged Wednesday with abdicating their public responsibility and selling out to giant commercial farming conglomerates.

The charge, which was made and angrily rebuffed at a press conference here, was based on a study made by a task force of the "Agribusiness Accountability Project," a nonprofit research group with headquarters here.

Task force director Jim Hightower said several suits — one against Agriculture Sec. Earl L. Butz — will be filed to correct what he said was the failure of the "land-grant college complex" to serve the public in general and rural Americans in particular.

Migrant hearings

At the same time, Sen. Adlai E. Stevenson III (D-Ill.) announced that a migratory labor subcommittee which he heads will hold hearings June 19-20 on the role of land-grant colleges in meeting the needs of farmers and farm workers.

Hightower charged that "at a time when rural America desperately needs scientific and intellectual attention to meet real problems, the land-grant community has ducked behind corporate skirts. . . . The consumer is hailed as the greatest beneficiary of the land-grant college effort but in fact consumer interests are considered secondarily, if at all, and in many cases the complex works directly against the consumer."

Representatives of the National Assn. of State Universities and Land Grant Colleges were at the press conference but went no further than to distribute a statement saying that "the report requires careful study and it intends to analyze its contents fully before responding . . . in detail."

The task force report was entitled "Hard Tomatoes — Hard Times." The title refers to the fact that land-grand college research helped perfect a mechanical tomato picker and then developed a breed of firm-fleshed tomatoes that could be harvested by the machine without damage.

Agribusiness projects

The study marshaled statistics showing a preponderance of scientific research effort on projects beneficial to agribusiness, such as "1,129 scientific man years on improving the biological efficiency of crops, but only 18 on improving rural income; 68 (man years) on marketing-firm and system efficiency and 17 on causes and remedies of poverty among rural people."

The task force also charged that in 16 states with both white and black land-grant colleges, 99.5 per cent of Agriculture Department funding in 1971 went to the white schools and only ½ of 1 per cent to the black schools.

Des Moines Register
Thurs., June 1, 1972

CRITICIZE ISU IN LAND-GRANT SCHOOL STUDY

Charge Universities Shun Small Farm

By George Anthan
(Of The Register's Washington Bureau)

WASHINGTON, D.C. America's land-grant colleges including Iowa State University at Ames, were charged here Wednesday with abandoning the rural people they were set up to help.

The charge was made in a 308-page report, "Hard Tomatoes, Hard Times," by a group called the Agribusiness Accountability Project (AAP).

According to AAP's report, the land-grant schools have catered to the needs of large agribusiness firms, of corporate agriculture and of large, well-financed farm operations.

"Ignored, Abused"

The schools have, the report concludes, ignored or even abused the "vast majority of farmers, farm workers, small town businessmen and residents, and the rural poor."

It was the colleges, the report states, that designed and promoted the revolution in farm mechanization that reduced the need for farm laborers and eliminated thousands of small farms.

The AAP is financed through a $68,000 grant from a foundation associated with the Field family of Chicago, Ill., according to James Hightower, project director.

Hightower said nine months of research on the report included visits to the campuses of nine land-grant institutions, including Iowa State University (ISU).

The project report is critical of Iowa State, the nation's first land-grant college, on several points, particularly on the school's development and promotion of the controversial feed additive, DES, used to stimulate growth in cattle. There has been some evidence that DES can cause cancer.

The AAP said, "DES has added some $2.9 million to the treasury of ISU, where the drug was developed (by Dr. Wise Burroughs), patented and promoted — all with tax dollars.

"Eli Lilly and Co., which was exclusively licensed by Iowa State to manufacture and sell the drug, has enjoyed profits on some $60 million in DES sales to date," said the report.

The report states, "DES is a dramatic and efficient gadget for fattening steers quickly, but where is the compensating research to insure that food quality is not lost?"

Bacon Color

AAP said the consumer is not just studied and "sold" by land-grant research but "he is also fooled." The study notes that "Iowa State is conducting packaging studies which indicate that color stays bright longer when bacon is vacuum-packed or sealed in a package containing carbon dioxide in place of air, thus contributing to 'more consumer appeal.' "

The report also pokes fun at Cornell University for a research project on how to squeeze a grapefruit at the store. The AAP quotes the Cornell study:

"Should you squeeze a product firmly or softly to determine its freshness, such as is commonly done with bread and some fruits? By using a universal testing machine, scientists have determined that a gentle squeeze, or more scientifically, a small deformation force, is much more precise in comparing textural differences than a firm squeeze or large deformation force."

In the same vein, the report questions a disease-tracking plan developed by Iowa State that involves tagging new-born pigs with the owner's Social Security number. However, this plan has been regarded by farm experts as highly significant.

The report chides Iowa State for using faculty members as "agribusiness tutors."

It cites such short courses as "Iowa Seed Dealers Field Day," "Turkey Processors Seminar, "Iowa Fertilizer and Agricultural Chemical Dealers Conference," "Organizational Behavior for Executives," "Future for Frozen Foods Conference," and "Cattle Feeders Day."

Parks Comment

Iowa State officials said they would withhold comment on

COLLEGES —
Please turn to Page Two

Research on How to Squeeze Grapefruit

COLLEGES---

Continued from Page One

specific points in the report until they have studied it.

But ISU President W. Robert Parks said, "According to the contents of the press announcement, I would say that the report has drawn some extremely questionable conclusions on the basis of a superficial and highly selective survey not worthy of being described as a research study."

Marvin A. Anderson, Iowa State dean of extension, said, "The land-grant colleges, and particularly the experiment stations and extensions services, have always operated in full view of the public eye and have welcomed responsible public scrutiny."

Following release of the report, Senator Adlai Stevenson III (Dem., Ill.) announced that his Senate subcommittee on migratory labor would open hearings June 19 to determine if "land-grant colleges are fulfilling the need of rural America."

The colleges were established with federal help as "Peoples' universities" aimed specifically at the needs of farmers and rural society.

The report states: "The land grant complex has been eager to work with farm machinery manufacturers and with well-capitalized farming operations to mechanize all agricultural labor, but it has accepted no responsibility for the farm laborer who is put out of work by the machine."

It continues, "The complex has been available day and night to help nonfarming corporations develop schemes of vertical integration, while offering independent, family farmers little more comfort than 'adapt or die.'

"The complex has tampered with the gene structure of tomatoes, strawberries, asparagus and other foods to prepare them for the steel grasp of the mechanical harvesters, but it has sat still while the American food supply has been liberally laced with carcinogenic substances.

"Like the farm worker, the average farmer is not invited into the land-grant laboratories to help design mechanization research. If he were, that research 'package' would include machines useful on smaller acreages, it would include assistance to develop co-operative ownership systems, it would include a heavy emphasis on new credit schemes and it would include a special extension to spread knowledge about the purchase, operation and maintenance of machinery."

Following the release of "Hard Tomatoes, Hard Times," the National Association of State Universities and Land-Grant Colleges issued a statement saying the group will "co-operate with any efforts designed to help its membership better serve the public."

The association noted that "great agricultural achievements are not accomplished without some side effec[illegible] and the accusation that th[illegible] land-grant colleges and univ[illegible]ities have been taken over [illegible] the great food conglomerat[illegible] and have driven the little [illegible]rmer out of business tends t[illegible] overlook the dazzling array [illegible] abundant foods this co-operat[illegible] has made available."

The project's report c[illegible]nds, also, that policies of th[illegible] land-grant schools and of t[illegible] U.S. Department of Agr[illegible]lture (USDA) have resulted i[illegible]mall farms becoming incr[illegible]ngly unprofitable.

Mass Migration

This, according to the [illegible]port, has led to a mass m[illegible]ation from the rural areas [illegible] the cities, and it calls tod[illegible] urban problems "a cons[illegible]ence of failure in rural Ameri[illegible]."

The Agribusiness A[illegible]untability Project report co[illegible]udes by stating, "There is [illegible]hing inevitable about the gr[illegible]h of agribusiness in rural A[illegible]rica. While this country enj[illegible] an abundance of relatively [illegible]heap food, it is not more f[illegible] not cheaper food and certa[illegible] not better food than that wh[illegible] can be produced by a sys[illegible] of family agriculture."

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Wed., June 7, 1972

The Des Moines Register

An Independent Newspaper

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Raking Over Ag Colleges

The Agribusiness Accountability Project, a nonprofit research organization financed mainly by the Field Foundation, accuses the Land Grant agricultural colleges of favoring well-to-do commercial farm families and neglecting the poor in rural areas. This will not be received by people in such areas as a startling revelation.

A task force of the project has published a preliminary report called "Hard Tomatoes and Hard Times; the Failure of the Land Grant College Complex." "Hard tomatoes" refers to the plant breeding work done by several state agricultural experiment stations to develop tomatoes hard enough to survive the grip of mechanical fingers and is symbolic of farm technology development. The Land Grant College Complex means the state agricultural colleges with their extension services and experiment stations and their close ties to the federal Department of Agriculture.

The theme of this report is that the "complex" has devoted its major efforts to helping the biggest and wealthiest farmers and the farm supply, processing and distribution business firms ("agribusiness"). The report charges that the ag colleges have accepted little responsibility for the small farmer or the hired workers displaced by the machines. It says the colleges have wandered a long way from their historic missions to serve rural people and consumers.

That is all true. The so-called "people's colleges" for years have served the "better people" best, but it's not wholly the fault of the colleges.

The main thrust of this report is sound and beyond dispute. Jim Hightower, who wrote the report, and his task force have the facts, mostly in official reports of the colleges and of USDA. Research groups of the colleges and USDA themselves have made the same criticism of the priorities in research and extension.

The only difference in the Hightower report is a more accusatory tone, as though the Land Grant college-USDA establishment was wholly to blame for the national failure to treat the people of rural America equally. Behind the establishment, however, are the political forces which decide how large the appropriations will be and how the money will be spent. Hightower doesn't say much about that.

It is the Southern conservative domination of congressional agriculture committees that decides many of these questions. Old Guard southerners have had extraordinary influence in keeping the Negro Land Grant colleges in a second- or third-class position, in barring studies of social questions in the South, in funneling out large sums for research on commercial farm problems, etc.

In addition, the major farm organizations have been strong supporters for commercial farming research and agribusiness research. Only the Farmers Union has shown much interest in the poor and in social research on rural problems.

* * *

In short, the Land Grant colleges are creatures of the system which governs farm policy in both political parties. College presidents, deans and directors soon learn where their support lies and what they must do to keep the funds rolling in. They can rationalize that they couldn't do any research on poverty in agriculture if they didn't give the big farmers what they want on better methods of fertilization.

Hightower fails to examine in depth the great gains to American consumers from the agricultural revolution. He seems to think that the consumer has not benefited and may have lost (in food quality). But the preponderance of evidence shows that the agricultural research and education movement in America has lowered food costs substantially and improved quality of food.

It is the farmer himself, especially the small farmer, and the people in farming areas who have been bypassed in the technological revolution who have paid the cost.

The agricultural establishment should be held accountable for this failure — but so should the rest of American society.

NATIONAL FARMERS UNION — Washington Newsletter — June 2 1972

THE FAILURE OF THE LAND GRANT COLLEGE COMPLEX

The land grant college complex has been the father of a protracted, violent, and continuing social and economic revolution in the American countryside. This public complex has put its dollars and energies to the service of scientific and business efficiency, for the advantage and profit of large corporations. Ignored directly, or abused, are the vast majority of farmers, farm workers, small town businessmen and residents, and the rural poor. The achievements of the land grant college complex are enormous. But strict economic efficiency is the goal, not people. Research priorities are distorted. For example, 62 times as much research was directed to the improvement of the biological efficiency of crops, as on improving rural income. Twenty-eight times as much research was devoted to ornamentals, turf and trees, as for rural housing. In all, less than 1/20th of the research conducted in 1969 was "people oriented."

Mechanization creates the need to improve on nature's design. Having built machines, research teams found it necessary to build a tomato that is hard enough to survive the grip of mechanical "fingers." Apple trees were restructured so the apples have less distance to fall to the mechanical catcher. If vegetation resists restructuring, scientists reach for chemicals. Chemicals can coordinate ripening for "once over" mechanical harvesting, and loosen the fruit, too.

The largest-scale growers, the farm machinery and chemical companies, and the processors are the primary beneficiaries of such research. Big business interests participate directly in planning, research and development. Their interests are designed into the product. No one else is consulted. The whole system has a certain logic. Large scale farming operations, many of them major corporate farms, hire most of the farm labor. They have the land and size to warrant substantial investments in machinery. Thus, they have both the economic incentive and the resources to mechanize. Farm workers were its earliest victims. Independent family farmers have also been victimized. Mechanization is the key element in the cycle of bigness—enough capital to buy machinery, to handle more acreage, to produce greater volume, for more profits, to buy more machinery, more acreage, etc. Mechanization has not been pressed by the land grant complex as an alternative, but as an imperative.

The land grant complex often works directly against the consumer. He is studied and "sold" on products he neither wants or needs. He is also fooled. Food cosmetics are studied to make the consumer "think" the food is good. Chickens are fed xanthophyll to give their skin "a pleasing yellow tinge." Spray-on coatings enhance the appearance of apples, peaches, citrus, and tomatoes. Some research varies from meaningless to absurd from the farmer's point of view. Mississippi State University researchers discovered "that families in poverty are not of a single, homogeneous type." Another MSU conclusion was that "the better educated young individuals are able to recognize and take advantage of economic opportunities attainable through migration." Auburn and Penn State studied "heat-retaining properties" of Astroturf. Cornell is trying to determine how hard to squeeze a grapefruit in the supermarket.

Land grant research policy is the product of a closed community—inbred, even incestuous. The only outsiders who can get in are corporate executives. They get in through the grant system. There is no system of public disclosure, though most of the money used is public money. Reports of research projects, money spent, sources of money, and project continuity are deficient.

The land grant colleges must get out of the corporate board rooms. They must get the corporate interests out of their labs. They must draw back and reassess their preoccupation with mechanical, genetical, and chemical gadgetry. The complex must again become the people's university. It must be redirected to focus the preponderance of its resources on the full development of the rural potential.

(Editor's note: The foregoing summary is based on "Hard Tomatoes, Hard Times," a report of the Task Force on the Land Grant College Complex by the Agribusiness Accountability Project, 1000 Wisconsin Ave., NW, Washington, D. C. The cost is $3 postpaid. A 23-page summary is available for $1.)

Thurs., June 1, 1972 Los Angeles Times ★

Land Grant Schools Accused of Favoring Corporate Agriculture

BY NICK KOTZ
Exclusive to The Times from the Washington Post

WASHINGTON — The nation's tax-supported land grant universities have served large agricultural businesses while neglecting the needs of consumers, family farmers, farm workers and rural America, a report charged Wednesday.

The land grant complex—composed of colleges of agriculture, agriculture experiment stations and state extension services—was charged with spending almost $1 billion in tax dollars annually, "almost solely for efforts that have worked to the advantage and profit of large corporations involved in agriculture."

The 308-page report was made by the Agribusiness Accountability Project, a nonprofit research project financed principally by the Field Foundation.

Jim Hightower, the project director, said that his group soon would file lawsuits against various land grant universities to require them to stop serving special corporate interests at the expense of the public interest.

The report asserts that:

—The land grant complex has stimulated an agricultural scientific revolution that chaged the face of rural America without devoting any attention to the needs of farmers, farm workers, consumers and rural communities that have been adversely affected by that change. Even though the revolution in agriculture has enormously increased production, the gains in "strict economic efficiency" have been often offset by harm to people.

—Of 6,000 man-years of research conducted at government-financed agricultural research stations in 1969, only 289 hours were devoted to the needs of rural people and their communities.

—University research in cooperation with food corporations often has produced less desirable food for consumers such as "hard tomatoes," which were developed to withstand machine picking, or has produced harmful foods, such as cattle fattened with possible disease-producing chemicals.

—The important advisory committees appointed by the Department of Agriculture to supervise research have seldom had representation from "the rural nonfarmer, the small farmer, the leaders of rural communities and the consumer."

—Land grant colleges and their officials are guilty of numerous conflicts of interest in their relationships with agribusiness.

—The Agriculture Department's extension service has helped market agribusiness products, while failing to implement a 1955 law relating to special needs of rural people and communities.

—Black land grant colleges, created by an 18 law in 16 Southern and border states, receive less than 1% of Agriculture Department funds allocated to land grants and agricultural research in those states.

—Land grant colleges are not required to make adequate public accounting of their activities, particularly those conducted in partnership with agribusiness corporations.

THE CHRONICLE OF HIGHER EDUCATION

June 5, 1972

Colleges Slight Small Farmers, Report Charges

By PHILIP W. SEMAS

WASHINGTON

The nation's land-grant colleges were accused last week of working primarily for the benefit of giant agricultural corporations and against the interests of small farmers, farm workers, and consumers.

The accusations were made in *Hard Tomatoes, Hard Times*, a detailed, 308-page report prepared by the Agribusiness Accountability Project, a non-profit, tax-exempt, public-interest research group financed by a $68,000 grant from the Marshall Field Foundation. The project is staffed primarily by young lawyers and journalists.

'Sidekick of Industrialized Elite'

"Although the land-grant college complex was created to be the people's university, to reach out to serve the various needs of a broad rural constituency, the system has, in fact, become the sidekick and frequent servant of agriculture's industrialized elite," the report charged. It said:

"The complex has been eager to mechanize all agricultural labor, but it has accepted no responsibility for the farm laborer who is put out of work by the machine.

"It has worked hand-in hand with seed companies to develop high-yield seed strains, but it has not noticed that rural America is yielding up practically all of its young people.

"It has tampered with the gene structure of tomatoes, strawberries, asparagus, and other foods to prepare them for the steel grip of the mechanical harvesters, but it has sat still while the American food supply has been liberally laced with carcinogenic substances."

Continued on Page 2, Column 1

Continued from Page 1

A spokesman for the National Association of State Universities and Land-Grant Colleges said these accusations "overlook the dazzling array of abundant goods this cooperation has made available."

The spokesman said the association would not make a detailed response until it had time to study the report.

The day the report was issued, Sen. Adlai E. Stevenson III (D-Ill.) announced that his Subcommittee on Migratory Labor would hold hearings June 19 and 20 on the role of the land-grant colleges in meeting the needs of farmers and workers.

The report charged that "land-grant researchers are preoccupied with machinery, chemicals, systems, and other gadgetry designed to assist agribusiness and to eliminate the human element from farming."

Using figures and research classifications developed by the U.S. Department of Agriculture, the report said that during 1969 only 289 scientific man-years were devoted to "people-oriented" agricultural research out of a total research effort of 5,956 man-years.

For example, the report said, agricultural researchers devoted 1,129 man-years to improving the "biological effectiveness of crops" and only 19 to improving rural income.

Much of the "people-oriented" research that does go on "is not for people at all, it is for agribusiness," the report added. For example, "the major share of rural housing research was not directed to those who live in [the housing], but to those who profit from the construction and maintenance of houses."

Said to Hurt Consumer

The report also charged:

► That land-grant colleges have worked against the best interests of the consumer by developing and encouraging the use of potentially harmful chemicals, such as DES, a growth hormone for cattle developed at Iowa State University.

► That land-grant colleges have developed marketing techniques designed to "fool" the consumer, such as a Kansas State University study of how to make apples more appealing by using lights and mirrors in supermarkets.

► That "land-grant policy is the product of a closed community" of government and university administrators and researchers.

► That Congress has failed to monitor the spending of land-grant funds and that appropriations hearings have provided little opportunity for critics of agricultural research to be heard.

► That an interlocking directorate exists between agribusiness and the land-grant colleges, with business leaders sitting on university governing boards and professors of agriculture sitting on corporate boards.

► That corporations have been financing university research on their particular problems by funneling money through special foundations set up by at least 23 of the land-grant colleges.

► That the black land-grant colleges received only 0.5 per cent of the land-grant money allotted to the 16 states that have such institutions.

► That land-grant colleges do not reveal full information on their research.

The report called for a "full-scale public inquiry into the land-grant college complex" by a Congressional committee, re-opening of the Congressional hearings on the 1972-73 agricultural research budget, legislation prohibiting land-grant college officials from receiving funds from agribusinesses, legislation preventing a corporation from giving money to a college for research to benefit that corporation, and "full public disclosure of land-grant college activities."

DALLAS MORNING NEWS

Friday, June 2, 1972

Land-Grant Colleges Come Under Fire From Study Group

By KAREN ELLIOTT
Washington Bureau

WASHINGTON — Tax-supported land-grant colleges are subsidizing major agribusiness to the tune of $750 million a year according to a study released this week.

The study, prepared by an independent consumer group called Agribusiness Accountability Project, was labeled false and misleading by Henry Fortman of Penn State University, coordinator of Extension Services for land-grant colleges in a 14-state area.

The 300-page report entitled Hard Tomatoes and Hard Times charges that land-grant colleges, including Texas A&M and Prairie View A&M have spent taxpayers money on research to help agribusiness while small farmers leave their farms at the rate of 800,000 a year.

"Tax dollars buy new tinker toys for agribusiness, misery for migants, death for rural America and more taxes for urban America. All in the name of efficiency," Jim Hightower, project director, told a news conference.

Hightower, 29, of Denison, directed the 6-month study of one of the nation's oldest college systems. The land grant colleges were established under the Morril Land Grant Acts of 1862 and 1890. The Hatch Act of 1887 created state agricultural experiment stations and the Smith-Lever Act of 1914 created the Extension Service, the third component of the complex.

Hightower's study focused on nine major land grant colleges including Texas A&M at College Station, but it also examined in detail state agricultural experiment stations and Extension Services.

The Extension Services alone account for $331 million expenditures annually. One third of the services' manhours and nearly one fourth of its budget goes to the 4-H clubs across the country.

Hightower called for a full-scale inquiry into the way tax dollars are spent and said the task force is contemplating legal action against the land grant college complex. He did not say which colleges or what projects.

However, Hightower indicated that action will be taken to insure that black land grant colleges established in 1890 get their fair share of funds. In 1971 99.5 per cent of the $76.8 million in U.S. Department of Agriculture funds allocated to the 16 states with black land grant colleges went to white colleges and .5 per cent to black land grant colleges. For example, Texas while Prairie View A&M received $21,961.

"Land grant colleges today have wandered a long way from their historic mission in the laws that created them to serve rural people," Hightower said.

According to the report 90 to 95 per cent of Texas A&M's graduates who plan an agricultural-related career go into agribusiness with the remainder choosing production agriculture.

"We don't teach Cotton Pickin' 102 anymore," the report quotes Dr. Ty Timm, director of A&M's agricultural research. A&M has grees in agriculture, agri-business management and agri-banking.

The report credits agricultural research with increased production that now permits each farmer to feed 45 other persons instead of the 11 he could feed in 1940. But it also pokes fun at some of the research projects and charges that most of the projects are designed to help big agricultural businesses.

The Senate subcommittee on migratory labor will hold hearings June 19 and 20 on the role of land grant colleges in meeting the needs of farmers and farm workers.

Omaha World-Herald
OMAHA, NEBR.
(MORNING)
D. 125,376 SUN. 273,394

JUN 1 1972

Report: Ag Schools Ignoring Rural Folk

Washington (UPI) — Land-grant colleges Wednesday were accused of abandoning their historic mission to serve rural folk and consumers, and of working instead almost solely for the profit of big corporations in agriculture.

In a preliminary report, the Task Force on the Land-Grant College Complex, an arm of the Agribusiness Accountability Project (AAP), said: " . . . . The tax paid, land-grant complex has come to serve an elite of private, corporate interests in rural America, while ignoring those who have the most urgent needs and the most legitimate claims for assistance."

Funded by the Field Foundation, AAP is an independent, nonpartisan, nonprofit organization that is sponsored by the Center for Community Change and the Project on Corporate Responsibility.

The report focuses on these schools: University of California, Cornell University, University of Florida, Iowa State University University of Maryland, Michigan State University, North Carolina State University, Purdue University and Texas A&M.

Complex

The report defined the complex as including colleges of agriculture, agricultural experiment stations and state extension services.

"Rural people, including the vast majority of farmers, farm workers, small town businessmen and residents, and the rural poor, either are ignored or directly abused by the land-grant effort,'' it said

It said the complex helped farm machinery manufacturers and large,' well-financed farm operators mechanize agricultural labor.

But it said there was no thought for the farm laborer put out of work by machine, and little or no comfort for the independent family farmer beyond the advice, "Adapt or die."

Hours were spent creating water systems for fruit and vegetable processors and canners, the report said, but 20,000 rural communities have no central water systems.

'Distorted Priorities'

The complex was accused of tampering with the gene structure of foods to prepare them for "the steel grasp of mechanical harvesters," but of doing nothing when the nation's food supply was laced with cancer-promoting substances.

The task force listed some "distorted research priorities.:"

—The 1,129 scientific man-years (SMY) on improving the biological efficiency of crops, only 18 SMY to improve rural income.

—842 SMY to control insects, diseases, and weeds in crops, only 95 SMY to insure food products free from toxic residues from agricultural sources.

—200 SMY on horticultural production for natural beauty, only 7 SMY for rural housing.

—88 SMY to improve management systems for livestock and poultry production, only 45 SMY to improve rural institutions.

—68 SMY on marketing firm and system efficiency, only 17 SMY on causes and remedies of rural poverty.

Recommendations generally called for Congress and state legislatures to investigate the land-grant complex, together with a federal audit.

Hearings Asked

Hearings should be reopened immediately by House and Senate Agriculture Committees on the 1971-72 farm research budget, the report said, and the secretary of agriculture should make sure the opinions of "outside" interests are heard from in research planning.

Jim Hightower, the task force's director, said legal suit will be filed against Agriculture Secretary Earl Butz "probably within the next few weeks," charging Butz with non-compliance of the law and failure to serve its intended beneficiaries.

Sen. Adlai Stevenson, D-Ill., chairman of the Senate Migratory Labor subcommittee, scheduled hearings for June 19-20 on the role of land-grant colleges in meeting the needs of farmers and farm workers.

4 —— FEEDSTUFFS, June 5, 1972

SENATE HEARINGS PLANNED

Relationship of Land Grant Colleges, Agribusiness Attacked

Feedstuffs Washington Bureau

WASHINGTON — In their efforts with food gadgetry, in their work for the in-put and out-put industries and in their mechanization research, land grant colleges and state agricultural experiment stations exist primarily as tax-paid clinics for agribusiness.

This is the basic assertion made in a report on the failure of the land grant college complex issued May 31 by the Agribusiness Accountability Project, which is funded by a $68,000 grant from the Field Foundation. The project is sponsored by the Center for Community Change and the Project on Corporate Responsibility.

James Hightower, author of the report said that Sen. Adlai Stevenson (D., Ill.) will hold hearings on major findings of the document June 19-20 in the Senate migratory labor subcommittee which he heads.

Hightower maintained that the land grant complex now serves only one constituency: corporate agribusiness. "And what's good for Purina isn't necessarily what's good for the country," he added.

Commenting on the report, the National Association of State Universities and Land Grant Colleges issued the following statement: "Great agricultural achievements are not accomplished without some side-effects and the accusation that the land-grant colleges and universities have been taken over by the great food conglomerates and have driven the little farmer out of business tends to overlook the dazzling array of abundant foods this cooperation has made available."

The task force called for a full-scale public inquiry into the land grant college complex. Congress should immediately initiate a thorough investigation into the impact of the land grant effort, into the relationships between agribusiness and the land grant community, into the policy-making apparatus, into disclosure requirements and into all other aspects of the complex, it was asserted.

Also recommended was that the Congressional Agricultural Appropriations Committees re-open this year's hearing on agricultural research budgets to take a detailed look at the exact nature of the land grant research now underway and proposed for the next year and to invite witnesses to testify who "now stand outside the land grant-agribusiness community."

The secretary of agriculture was called on to restructure the national advisory and policy-making apparatus so that there is broadened in-put for research planning. The task force also suggested that the secretary of agriculture, in cooperation with the land grant community, begin public negotiations with "outside" constituencies to develop and promulgate procedures that will allow these interests, as well as agribusiness, to initiate research requests and otherwise make use of this public resource. All research requests should come through these channels and should be public information, it was said.

End Racial Discrimination

An end to racial discrimination within the land grant system was recommended: "Research and extension money should be allocated directly to the black land grant colleges on the same basis as it is allocated to the white colleges." The task force maintained that federal money should be withheld from any state land grant system that does not place its black institution on an equal footing with the white college. It was further declared that federal money should be withheld from the extension service until that agency complies with the civil rights legislation of the U.S.

The task force sought legislation or regulations which would prohibit land grant officials and other personnel from receiving remuneration in conflict of interest, including compensation for service on corporate boards, retainers and other fees for agribusiness consultations and private research grants to test corporate products. According to the report, corporations should be prevented from earmarking contributions to the land grant complex for specific research that is proprietary in nature. There should be assurance, Hightower contended, that land grant patenting practices do not allow private gain from public expenditures without adequate, financial compensation to the public. Where exclusive licenses are necessary, an open bidding system should be used.

Also requested was full public disclosure from the land grant complex. Specifically, it was asserted, legislation should be enacted to require an annual report from each land grant system. These reports would be detailed and made public.

DES and Iowa State

During the press conference at which the report was released, and in three and a half pages of the report, Hightower referred to development of the feed additive diethylstilbestrol (DES) by Iowa State University.

"DES is a product of land grant college research, and its wide use is a product of land grant college promotion," he said, adding that the DES research at ISU was funded by state tax dollars.

"A patent on DES was obtained in 1956 by the Iowa State Research Foundation (ISRF). ISRF awarded an exclusive license to Eli Lilly Drug Company to manufacture and market DES, which it does under the registered trademark Stilbosol. There was no competitive bidding for the license. The foundation chose Lilly because it thought that company 'was big enough to do the job and was ethical.' Under the terms of the licensing agreement, ISU receives a 5% royalty on net sales of DES (85% of that royalty on net sales goes to the foundation, while the other 15% goes to the inventor). Since 1956, DES has produced a royalty of $2.9 million for ISU, which means that the taxpayer has helped Eli Lilly & Co. to sales of $58 million."

The task force said DES is extremely dangerous to consumers because there is strong clinical evidence that the drug is carcinogenic to man.

Hightower claimed that land grant scientists, in their eagerness to serve agribusiness and to promote agricultural efficiency, have sacrificed the well-being of the consumer. "DES is a dramatic and efficient gadget for fattening steers quickly, but where is the compensating research to insure that food quality is not lost? More to the point, where is the research to assure that the consumer literally will not choke on the profits of agribusiness? DES is an example of land grant research at its worst — it is at once a service to industry and a disservice to consumers," according to the report.

Hightower was sharply critical of the contribution land grant colleges have made to vertically-integrated production of such commodities as broilers and hogs.

Copies of the Hightower report, "Hard Tomatoes, Hard Times" are available at $2.50 per copy from: Agribusiness Accountability Project, 1000 Wisconsin Ave., N.W., Washington, D.C. 20007. #

30-A THE MIAMI HERALD Sun., June 4, 1972

'Hard Tomatoes:' Indicator of 'Hard Times?'

By CHARLES STAFFORD
Miami Herald-St. Pete Times Wire

WASHINGTON — The MH1 is a tomato, a new breed of tomato developed by researchers at the University of Florida, and on its stem hangs a 308-page report critical of the land-grant college complex.

The report is titled "Hard Tomatoes, Hard Times," and this is what it says about the MH1:

"The University of Florida . . . recently has developed a new fresh-market tomato (the MH1) for machine harvesting. In describing the characteristics that 'make this tomato so desirable for machine harvest, the university pointed to 'the thick walls, firm flesh, and freedom from cracks.' It may be a little tough for the consumer, but they can't please everyone.

"The MH1, which will eliminate the jobs of thousands of Florida farm workers who now hand-pick tomatoes for the fresh market, also is designed to be harvested green and to be 'ripened' in storage by application of ethylene gas . . . Ethylene turns them red, but it is not to be mistaken for sunshine and nature's own way."

THE STUDY, conducted by the Agribusiness Accountability Project, focused on the work of colleges of agriculture. Released earlier this week, it concluded that "the tax-paid, land-grant complex has come to serve an elite of private, corporate interests in rural America, while ignoring those who have the most urgent needs and the most legitimate claims for assistance."

"Land-grant researchers do not confront this question of quality impact, choosing instead to dwell on the benefits that food engineering offers agribusiness."

U of F Report

The University of Florida was one of the universities closely studied by the project's task force, and many of the situations described to back up its conclusions were Florida situations.

The development of the MH1 was offered as evidence that "landgrant researchers do not confront this question of quality impact, choosing instead to dwell on the benefits that food engineering offers agribusiness." The MH1, according to the study, is a boon to the corporate farm but is detrimental to the interests of the farm laborer and the tax-paying consumer.

IN THE SOUTH, the report points out, land-grant colleges "were white bastions, and even after the Civil War, blacks were barred from admission both by custom and by law." Black colleges of agriculture were created in 17 states.

"The black colleges have been less than full partners in the land-grant experience," the report said. "It is a form of institutional racism that the land-grant community has not been anxious to discuss."

As late as fiscal 1971, less than 1 per cent of the research money distributed by the Cooperative State Research Service went to the black colleges. In Florida, for example, the University of Florida received $1,205,759 while Florida A&M got only $14,916.

"Land-grant college research is agribusiness research," the report said. "Projects are designed with agribusiness interests in mind, frequently with agribusiness participation. Whether the need is an irrigation system, a new-shaped tomato, a plan for vertical integration, a chemical solution for processing vegetables, a new food product or an electronic checkout system for supermarkets, land-grant researchers stand ready and able to assist, irrespective of other interests in rural America."

CORPORATIONS pay for some research, but not much. Roughly $400,000 was invested by private industry in research at Florida's Institute of Food and Agricultural Sciences in 1970, $227,158 by chemical, drug and oil companies. Many such grants are given for testing a company's product. Chemagro Corp., for example, gave the institute $500 to test Chemagro 7375, an experimental nematicide.

The Extension Service, which operates out of the land-grant schools on tax funds, serves as a salesman for agribusiness, the report said.

"In Florida," it said, "the Extension Service boasts of its salesmanship: 'In cooperation with the citrus experiment station and industry organizations, the Extension Service began a crash program in 1965 of selling chemical weed control to producers. In the four years from 1965 to 1969, grower acceptance of herbicides grew rapidly from zero acres 350,000 acres under chemical weed control . . . Grower meetings, seminars and printed materials have been used to promote acceptance of chemical controls.' "

Florida Extension also "conducted in-depth audits of both marketing and management firms in order to determine if the organizational structure and method of making decisions adequately carries out the over-all objectives of the firm," the report said.

ON THE OTHER hand, the Extension Service's work with the rural poor in Florida accounts for only 5.3 per cent of its effort, and more than half of this is spent in the nutrition program.

"In Florida," the report said, "there is a large and growing farm worker population. Their needs are obvious. Yet, according to the Florida Cooperative Extension Service, 16 out of 100,000 man-days were spent in 1970 to help migrants — an allocation of 0.016 per cent of ES time in Florida."

"The land-grant colleges," the report concluded, "must get out of the corporate board rooms, they must get the corporate interests out of their labs, and they must draw back and reassess their preoccupation with mechanical, genetical and chemical gadgetry. The complex must, again, become the people's university — it must be redirected to focus the preponderance of its resources on the full development of the rural potential, helping to make the American countryside a place where millions of people can live and work in peace."

HARD TOMATOES, HARD TIMES

HON. BOB ECKHARDT

OF TEXAS

IN THE HOUSE OF REPRESENTATIVES

Thursday, June 1, 1972

Mr. ECKHARDT. Mr. Speaker, the Agribusiness Accountability Project, a public interest research group funded by a grant from the Field Foundation, released a report yesterday entitled "Hard Tomatoes, Hard Times: The Failure of the Land Grant College Complex." Based on a 6-month study of colleges established throughout the United States following passage of the Morrill Acts of 1862 and 1890, the report raises significant questions regarding the role of the "land-grant college complex" in our society. According to its author, Jim Hightower, the message of the report is that:

> The tax-paid land grant complex (consisting of Colleges of Agriculture, State Agricultural Experiment Stations, and Extension Services) has come to serve an elite of private, corporate interest in rural America, while ignoring those who have the most urgent needs and the most legitimate claims for assistance.

Mr. Hightower, assisted by Mrs. Susan DeMarco and a task force of researchers document this message with a comprehensive examination of research policies and activities at selected universities, specifically the relationship of large agribusiness corporations with the universities. The study also includes an examination of the extension services, experiment stations, the U.S. Department of Agriculture, and briefly, the U.S. Congress.

Each Member of Congress should give careful attention to this study. The report cites numerous examples to illustrate the claim that:

> Corporate agriculture's preoccupation with scientific and business efficiency has produced a radical restructuring of rural America that has been carried into urban America. There has been more than a "green revolution" out there—in the last thirty years there literally has been a social and economic upheaval in the American countryside. . . .
>
> The land grant college complex has been the scientific and intellectual father of that revolution. This public complex has put its tax dollars . . . into efforts that have worked to the advantage and profit of large corporations involved in agriculture.

In 1969, at least $475 million of taxpayers' money was appropriated to the land-grant college system—$184 million of which was Federal tax money. We owe it to the taxpayers we represent to examine our land-grant colleges to insure that the money is properly spent.

The issues raised by the report extend beyond the accountability for expenditure of public moneys. There is the broader question of the implementation of a rural policy. While on the one hand we appropriate millions of dollars for agricultural programs designed to improve the income of the American farmer, we counteract the effectiveness of those programs:

> . . . Rural people, including the vast majority of farmers, farm workers, small town businessmen and residents and the rural poor, either are ignored or directly abused by the land grant effort. Each year about a million of these people pour out of rural America into the cities. They are the waste products of an agricultural revolution designed within the land grant complex.

As the Representative of a district which encompasses a portion of Houston, Tex., the sixth largest city in the country, I am concerned about the influx of rural Americans into the cities. While Houston is a progressive city, it nevertheless is a victim of the urban blight which erodes urban centers throughout the country. The annual influx of some 20,000 Mexican Americans from rural areas into the city to look for jobs further compounds the problems. Many of these individuals come from the lower Rio Grande Valley of Texas, a fertile agricultural region which is beginning to feel the impact of the agricultural revolution. These new arrivals have no skills, and no employment experience except for farm labor. They are forced to settle in the worst areas of the city.

According to a study by Dr. Sam Schulman, at the University of Houston, the Mexican-American ghettos in Houston have three times as many substandard housing units as the rest of the city. In these areas, the income is half of the average Houston citizen, and the unemployment rate is twice as high. The city's economy and the city's services are hard pressed to adequately meet the newly generated demands. I am convinced that the strain on our cities could be considerably reduced if the land-grant college system would reorient itself to serve the needs of the people who now live in rural America rather than increasing the migration to the cities by creating, as the AAP describes it, "a social and economic upheaval in rural America."

My colleagues who are interested in consumer affairs will find "Hard Tomatoes, Hard Times" particularly educational. For example, I have received quite a volume of correspondence from my constituents urging me to take action to ban the use of DES, a drug additive mixed with feed to increase the efficiency and rate at which cattle convert feed into pounds of beef. I wonder what their reaction will be when they learn that DES, which has carcinogenic characteristics and is fed to approximately three-fourths of the 40 million cattle slaughtered annually, is a product of land-grant college research. The Iowa Experiment Station discovered how to use this hormone in cattle feeds after years of research on growth regulators conducted at Iowa State University and funded by tax dollars.

Upon discovery of the chemical's use, a patent was obtained on DES by the Iowa State Research Foundation and awarded, with no competitive bidding, to the Eli Lilly Drug Co. to manufacture and market. Under the terms of the agreement, ISU receives a 5-percent royalty on net sales. Since 1956, DES has produced a royalty of $2.9 million for ISU, which means "that the taxpayer has helped Eli Lilly Drug Co. to sales of $58 million." This is but one example of many research projects conducted on our land-grant colleges which may provide the consumer with a steady supply of relatively cheap food, but only with a "good dose of chemicals"—and all at the taxpayers own expense.

"Hard Tomatoes, Hard Times" is an ambitious study and it provides us with meaty food for thought. Mr. Hightower and his researchers are to be congratulated. I endorse the findings of the report, and urge each of you to read it, and to join in the public debate which the task force study is certain to inspire.

Fort Worth Star-Telegram
FORT WORTH, TEXAS
D. 143,268 (EVENING)

JUN 1 1972

POWER ABDICATED

Sellout of Small Farmer Charged

By WILLIAM HINES

© 1972, Chicago Sun-Times

WASHINGTON — The nation's land grant colleges, agricultural experiment stations and state extension services were charged yesterday with abdicating their public responsibility and selling out to giant commercial farming conglomerates.

The charge, which was made and angrily rebuffed at a press conference here, was based on a study made by a task force of the "Agribusiness Accountability Project," a nonprofit research group with headquarters here.

Task force director Jim Hightower said several suits — one against Agriculture Secretary Earl L. Butz — will be filed to correct what he said was the failure of the "land grant college complex" to serve the public in general and rural Americans in particular.

At the same time, Sen. Adlai E. Stevenson III, D.-Ill., announced that a migratory labor subcommittee which he heads will hold hearings June 19-20 on the role of land grant colleges in meeting the needs of farmers and farm workers.

• • •

HIGHTOWER charged that "at a time when rural America desperately needs scientific and intellectual attention to meet real problems, the land grant community has ducked behind corporate-skirts . . . the consumer is hailed as the greatest beneficiary of the land-grant college effort but in fact consumer interests are considered secondarily, if at all, and in many cases the complex works directly against the consumer."

Representatives of the National Association of State Universities and Land Grant Colleges were at the press conference but went no further than to distribute a statement saying: "The report requires careful study and it intends to analyze its contents fully before responding . . . in detail."

Less reserved was a man in the audience who said he was Henry Fortmann of University Park, Pa., "the co-ordinator for 14 agricultural experiment stations in 12 northeastern states." Fortmann took Hightower to task for what he called "ridicule" in the report of research projects undertaken by elements of the land-grant complex. "It's very easy to poke fun at almost anything people do," Fortmann said. "I am disturbed that you would poke fun at so many things in so superficial a way . . . most of the people in the land grant (college) association would be most disturbed to hear you say that they are the tools of the corporations."

• • •

THE TASK FORCE report was entitled "Hard Tomatoes — Hard Times." The title refers to the fact that land grant college research helped perfect a mechanical tomato picker and then developed a breed of firm-fleshed tomatoes that could be harvested by the machine without damage. These advances in turn have brought about hard times for small farmers, the report asserts.

The study marshals statistics showing a preponderance of scientific research effort on projects beneficial to agribusiness, such as "1,120 scientific man-years on improving the biological efficiency of crops, but only 18 on improving rural income; 68 (man-years) on marketing-firm and system efficiency and 17 on causes and remedies of poverty among rural people."

The task force also charged that in 16 states with both white and black land grant colleges, 99.5 per cent of Agriculture Department funding in 1971 went to the white schools and only ½ of 1 per cent to the black schools.

It also accused one land grant school, Iowa State University, of enriching itself with royalties from a drug (diethylstilbestrol or des) used as a cattle-feed additive that has been shown to cause cancer in laboratory animals. There has been a recent crackdown on use of des in cattle feeds.

Ames Daily Tribune

Volume 105—No. 282 Ames, Iowa, Wednesday, May 31, 1972 Ten Cents

Report charges land grant colleges cater to agribusiness

ISU officials rebut 'task force' report

A report issued this morning condemning the "land grant college complex" for catering to large agribusiness firms was called "highly questionable" by Iowa State University officials.

The report was issued by the Agribusiness Accountability Project, Washington, D.C., which describes itself as a "public interest research and advocacy organization."

The book-length report, titled "Hard Tomatoes, Hard Times," claims land grant colleges have ignored needs of small family farmers, small town businessmen who depend on the family farms for their trade, and the farm workers who are being replaced by mechanization.

The title refers to research at land grant colleges "to build a tomato that is hard enough to survive the grip of mechanical 'fingers' " of a harvester.

Survey 'Highly Selective'

W. Robert Parks, ISU president, said he had received a copy of the 23-page report summary this morning.

Although he had not studied the report, Parks said his first indication was that the report contained "highly questionable conclusions reached on the basis of a superficial and highly selective survey."

The "Task Force on the Land Grant College Complex," a part of the Agribusiness Accountability Project, claims to have done research in Washington, by correspondence and on the campuses of nine land grant colleges, including Iowa State.

On the basis of that research, they charge "land grant college officials and scientists are diverting millions of tax dollars annually to the service of large, agricultural corporations, while ignoring the pressing concerns of consumers, environmentalists, American farmers, farm workers, small town businessman and other rural residents."

Parks questioned the evidence used for the conclusions as "very sketchy and highly selective," noting it is "probably not worthy of being described as research."

In the summary, there were two specific references to Iowa State research which the group contended was to benefit agribusiness.

One of those referred to the Iowa State research and development of stilbestrol (DES), a growth hormone fed to cattle to speed growth.

The report noted "there is strong evidence the DES causes cancer in man. Yet DES has added some $2.9 million to the treasury of Iowa State University, where the use of the drug was discovered, developed, patented and promoted—all with tax dollars. Eli Lilly and Co., which was exclusively licensed by Iowa State to manufacture and sell the drug, has enjoyed profits on some $60 million in DES sales to date."

Hazel Explains DES Situation

Lanoy Hazel, distinguished professor of animal science, said he "can't argue with the statements," since high dosages can cause cancer, but noted DES does not accumulate in the muscle tissue, which is the main food from animals.

Hazel also noted the money Iowa State received from the DES was "plowed back into research," thus lessening the requirement for tax dollars to support that other research.

He also contended the selection of Lilly to handle the project was done because they were better qualified than other companies, and accepted Iowa State restrictions on the marketing of the product to prevent the development of a monopoly on its sale.

The result of the development and sale of the product is "more beef and cheaper beef for the consumer," he said.

Speaking of research in general, Hazel said "The ultimate group that benefited from our research in general...is the consumer," mentioning the "relative cheapness of our grocery bill in comparison with that of other countries.

He explained U.S. residents spend about 16 to 17 per cent of their disposable income for food (five per cent for meat), while the percentage in other countries spent on food is 35 to 50 per cent.

The report contends "While this country enjoys an abundance of relatively cheap food, it is not more food, not cheaper food, and certainly not better food than that which can be produced by a system of family agriculture."

The report also attacked Iowa State research on the vacuum packing or sealing in carbon dioxide of bacon, contending that research is done only to improve the color of the meat and thus the consumer is "fooled."

Report's Assumptions

Hazel and Marvin A[illegible]erson, head of university extension, said packaging bacon in this manner improves its shelf life, and thus the cost is lower because the packers do not have to absorb the additional losses due to spoilage.

The task force made three assumptions:

—"if there is to be research for firms that surround the farmer, benefits of that research should flow back to the farmer;"

—"no public money should be expended on research that principally serves the financial interests of agricultural input and out-put corporations;"

—"anything that is good for agribusiness is not necessarily good for agriculture, farmers, rural America or the consumer."

Many of their contentions centered on a lack of public disclosure of ties between agribusiness and land grant colleges.

Therefore, they called for "a full-scale public inquiry" the matter, including laws requiring "full pub disclosure."

"The land grant colleges must get out of the corpor board rooms, they must get the corporate interests ou their labs..." the report charged, adding the land gr complex "must again become the people's university must be redirected to focus the preponderance of resources on the full development of the rural potential.

SAN JOSE NEWS
SAN JOSE, CALIF.
D. 75,531

MAY 3 1 1972

In Agricultural Research

Consumers, Workers 'Ignored'

By PEGGY SIMPSON

WASHINGTON (AP) — Agricultural research at land-grant colleges and universities is serving the corporate boardroom at the expense of displaced farm workers and consumer needs, a public-interest study report said today.

The study entitled "Hard Tomatoes, Hard Times" was prepared by the Agribusiness Accountability Project, a Ralph Nader spinoff organization.

It said thousands of hours of federally financed research had produced mechanical efficiency on big farms around the country. But improving rural housing, producing foods free of toxic residues and finding ways of relieving poverty among migrant workers were mostly ignored, it said.

In housing, for example, the report said "the major share of the research was not directed to thousands who live in (houses) but to those who profit from (their) construction and maintenance."

Researchers in consultation with big farm interests found ways to grow hard tomatoes which won't be damaged by mechanical pickers and stubby apple trees low enough to the ground so the fruit falls undamaged into automated catchers, the report found.

Meanwhile, ways of employing displaced migrant workers were ignored, it said.

While methods were found to provide millions of gallons of water to fruit and vegetable canning factories, the report said, 30,000 rural communities go without central water systems for their inhabitants.

The report cited these schools as most vulnerable: University of California, Cornell University, University of Florida, Iowa State University, University of Maryland, Michigan State University, North Carolina State University, Purdue and Texas A&M.

It said American agriculture is enormously productive, largely due to mechanical, chemical, genetic and managerial research conducted through the land-grant college system.

"But the question is whether the achievements outweigh the failures, whether benefits are overwhelmed by costs," the report said. "It is the finding of the task force that land-grant college research is not the bargain that has been advertised."

MILWAUKEE JOURNAL
MILWAUKEE, WISC.
D. 346,967 SUN. 530,805

JUN 1 1972

Farm Study Rakes Land Grant Colleges

Washington, D. C. – AP – Agricultural research at land grant colleges and universities is serving the corporate board room at the expense of displaced farm workers and consumer needs, a public interest study report says.

The study, entitled "Hard Tomatoes, Hard Times," was prepared by the Agribusiness Accountability Project, a spinoff of the Ralph Nader organization.

Job Needs Ignored

It said thousands of hours of federally financed research had produced mechanical efficiency on big farms around the country. But improving rural housing, producing foods free of toxic residues and finding ways of relieving poverty among migrant workers were mostly ignored, it said.

In rural housing, the report said, "the major share of research has been directed not to those who live in (the houses), but to those who profit from the construction and maintenance."

Researchers in consultation with big farm interests found ways to grow hard tomatoes that would not be damaged by mechanical pickers, and apple trees low enough to the ground so the fruit fell undamaged into automated catchers, the report said.

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It said American agriculture was enormously productive, largely due to mechanical, chemical, genetic and managerial research conduted through the land grant college system.

Question Raised

"But the question is whether the achievements outweigh the failures, whether benefits are overwhelmed by costs," the report said. "It is the finding of the task force that land grant college research is not the bargain that has been advertised."

"The focus of agricultural research is warped by the land grant community's fascination with technology, integrated food processes and the like," it said.

The study called for an audit of the land grant system by the General Accounting Office, an end to alleged racial discrimination that it said permeated the system, legislation to prohibit land grand officials from receiving gifts that constituted conflict of interest and prohibition against the corporate practice of earmarking contributions to the land grant schools for specific kinds of research.

The Journal of Commerce
NEW YORK, N. Y.
D. 28,854

JUN 1 1972

Farm Colleges Partial To the 'Corporate Elite'

Journal of Commerce Staff

WASHINGTON, May 31 — A consumer group's task force on the land grant college complex today released a preliminary report which charges federally subsidized agricultural research is not being done in consumer-taxpayer interst but rather in the interst of the "corporate elite," or big agribusiness.

The Agribusiness Accountabilty Project (funded by a $69,000 field foundation grant and not connected with Ralph Nader) said it is not attacking the land grant system per se, but is raising questions on the use of federal monies in the complex. The task force named chemical, drug and oil coprorations as among the most satisfied land grant industry customers contributing to the agricultural research institutions to gain a "hefty return on a meager investment."

Contributing Giants

American Cyanamid, Chevron, Dow Chemical, ESSO, Eli Lilly, Geigy, FMC-Niagara, IMC, Shell, Stauffer, Union Carbide and Upjohn are "just a few of the giants that gave research grants" to schools checked in task force studies over the past nine months, the report said.

The report said half of industry's research funds to state agricultural experiment stations went to four categories in fiscal year 1969: insect control, weed control, plant and animal biology and biological efficiency.

The report, "Hard Times and Hard Tomatoes," says rural and city consumers are being cheated when products are developed with tax money and then "wrapped and delivered to the corporation" with the college's backing and perhaps with an endorsement by the scientist who conducted the research.

James Hightower, author of the force's report, said the AAP is contemplating legal action too further the consumer cause against the land grant complex, and will be joined in the action by many constituent groups including some of the nation's largest farm organizations.

Courier-Journal & Times
Louisville, Ky.
SUN. 350,303

JUN 4 1972

Land-grant colleges criticized by research group

From New York Times and L.A. Times-Washington Post Service Dispatches

WASHINGTON — The big agriculture and technical universities of the United States have strayed so far from their original research mission of aiding consumers and rural communities that they injure the people they were intended to serve, according to a study by a public-interest research organization.

As a result, the group said in a report released last week those institutions have been largely responsible for troubles in rural areas that have generated major problems in the cities.

The group, the Agribusiness Accountability Project, said that the big universities had focused on research that favored big, agriculture-oriented corporations and the biggest producers while neglecting the more numerous small farmers, farm workers and others in rural communities and nearly ignoring the interests of consumers.

About a million displaced people a year are pouring into the cities as "the waste products of an agricultural revolution designed within the land-grant (college) complex," the report said, adding: "today's urban crisis is a consequence of failure in rural America. The land-grant complex cannot shoulder all the blame for that failure, but no single institution—private or public—has played a more crucial role."

Land-grant colleges are schools endowed with public lands or the monetary equivalent and were intended to offer an opportunity for an education to the children of 19th-century farm and factory workers.

A spokesman for the National Association of State Universities and Land grant Colleges, which represents the institutions studied, said: "The association believes the report requires careful study, and it intends to analyze its contents fully before responding to them in detail." He issued a preliminary statement for the association saying:

The report, titled "Hard Tomatoes, Hard Times," documents the findings of a six-month study. It will be the basis of a lawsuit planned by the Agribusiness Accountability Project against public and educational officials involved. It will also be the subject of hearings called by Sen. Adlai E. Stevenson III, D-Ill., who is chairman of the Senate Labor Committee's subcommittee on migratory labor.

The study was made by a team of 12 researchers headed by James Hightower, who is director of the project and author of the report.

Following are the major charges contained in the report:

- The land-grant institutions' research has focused on projects that primarily aid agribusiness and the biggest producers, such as a two-story factory at Cornell that tests manufacturing methods for processers and, elsewhere, the development of big and costly planting and harvesting machinery.
- A "cozy" relationship exists between land-grant researchers and big companies like the Chemagro Corp., which was cited as obtaining a university study of one of its chemical products for a contribution of $500,000. The report said corporate benefits to land-grant personnel such as consultant fees raised serious questions of conflict of interest.
- The institutions abuse the consumer by breeding crops primarily for easier harvest by the big machines, with little regard for quality or food value. It cited the "hard" tomato, developed by the University of Florida for mechanical picking.
- Many projects, called "research of the absurd," are merely frivolous, such as a mechanical test to calibrate how hard shoppers should squeeze a grapefruit to determine its firmness and texture.

The study recommends:

- A General Accounting Office audit of the land grant complex.
- Reopening of congressional hearings on the 1972-73 agricultural research budget.
- Legislation prohibiting land grant personnel from receiving remuneration from agribusiness corporations in specified "conflicts of interest."

THE POST-STANDARD
SYRACUSE, N. Y.
D. 92,652

JUN 1 1972

Land Grant Colleges Scolded in Report

(c) 1972, The Washington Post

WASHINGTON — The nation's tax-supported land grant universities have served corporate agribusiness while neglecting the needs of consumers, family farmers, farm workers, and rural America, a report charged Wednesday.

The land grant college complex — composed of colleges of agriculture, agriculture experiment stations and state extension services — are charged with spending annually almost $1 billion in tax dollars "almost solely for efforts that have worked to the advantage and profit of large corporations involved in agriculture."

The 308 page critical study was made by the Agribusiness Accountability Project, a non-profit, research organized group, financed principally by the Field Foundation, and interested in the problems of the rural poor.

Jim Hightower, the project director, said at a press conference, that his group soon will file lawsuits against various land grant universities, to require them to stop serving special corporate interests at the expense of the public interest.

The report, entitled "Hard Tomatoes, Hard Times, the Failure of the Land Grant College Complex" variously asserts that:

— The land grant college complex has stimulated an agricultural scientific revolution which changed the face of rural America without devoting any attention to the needs of farmers, farm workers, consumers, and rural communities that have been adversely affected by that change. Even though the revolution in agriculture has enormously increased production, the gains in "strict economic efficiency" have been often offset by harm to "people."

— Of 6,000 scientific man-years of research conducted at government-financed agricultural research stations in 1969, only 289 hours were devoted to the needs of rural people and their communities.

University research in cooperation with food corporations often has produced less desirable food for consumers such as "hard tomatoes," which were developed to withstand machine picking, or has produced harmful foods, such as cattle fattened with possible disease-producing chemicals.

— Corporate agribusiness has developed machinery with taxpayers' help, "but the workers who are replaced are not even entitled to unemployment compensation."

— The important advisory committees appointed by the Agriculture Department to supervise research have seldom had representation from "the rural nonfarmer, the small farmer, the leaders of rural communities, and the consumer."

— Land grant colleges and their officials are guilty of numerous conflicts of interest in their relationships with agribusiness corporations. "It is difficult to find the public interest," the report states, in relationships in which it is impossible to tell "where the corporation ends and the land grant college begins."

— The Agriculture Department's Extension Service has helped market agribusiness products, while failing to implement a 1955 law relating to special needs of rural people and communities.

— Black land grant colleges created by an 1890 law in 16 southern and border states, are discriminated against in receiving less than 1 per cent of USDA funds allocated to land grants and agricultural research in those states.

— Land grants are not required to make adequate public accounting of their activities, particularly those conducted in partnership with agribusiness corporations.

"Had the land grant community chosen to put its time, its money, its expertise, and its technology into the family farm rather than into corporate pockets," the report states, "then rural America today would be a place where millions could live and work in dignity. The colleges have mistaken corporate need for national need. This is proving to be a fatal mistake for the people of America. It is time to reorient the colleges to act in the public interest."

HOW THE GOVERNMENT SPENDS $650 MILLION A YEAR TO PROTECT THE SMALL FARMER

That's right—the federal government has a program that costs approximately $650 million yearly designed to improve the lot of the small farmer and aid in the development of an agriculture that benefits everyone: the land grant college complex.

But for years it's been obvious that the money has gone to improve the lot of agribusiness almost exclusively.

Now there is in Washington a group known as the Agribusiness Accountability Project, sponsored by the Field Foundation, the Center for Community Change and the Project for Corporate Responsibility. Its function is to bring *someone* to account for the damage being done to this nation by the malpractices of big business farming. Within the Agribusiness Accountability Project is the Task Force on the Land Grant College Complex, directed by Jim Hightower. Susan DeMarco is the chief researcher; 10 others work on the task force.

This group has completed a study of the land grant college complex and followed its money around. It has unravelled the tight relationships between agricultural departments on land grant campuses, the federal agricultural bureaucracies and the conglomerates and industries that have assumed a great deal of land and power to themselves.

The Task Force is contemplating court action against the Secretary of Agriculture to force him to administrate the program according to the will of Congress—to obey the laws that set up the land grant college complex, in other words. They are seeking farmers, farm workers and consumers, who have been hurt by the malapplication of the laws, to become plaintiffs in the suit, as those who have been hurt have the necessary standing in court. The lawsuit will say that the complex has caused the displacement of millions of people and prevented the small farmer from earning a living. A constitutional question also arises because small farmers are not being given due process of law the way the land grant acts are now administered. "There should certainly be some civil rights issues involved, too," Hightower says. He hopes that filing of the suit will be followed by full-scale Congressional hearings. "A number of Senators are interested," he reports.

The land grant college complex itself contains familiar organizations: colleges of agriculture, agriculture experiment stations, and extension services. The task force made investigations at Cornell, University of California, Florida, Iowa State, Maryland, Michigan State, North Carolina State, Purdue and Texas A&M.

Here's what they found, in their own words:

——At the time that Earl Butz was Dean of the Purdue College of Agriculture, he was also a member of the Board of Directors of International Minerals and Chemicals Corp. (IMC), and during this time Purdue did research for IMC, and during this time Butz was making public pronouncements that we should "go slow" on saving the environment.

——That the extension service often acts as a sales force for agricultural chemical products among farmers.

——That the chiefs of the colleges of agriculture at land grant colleges and chiefs of agribusiness share the same philosophy of agriculture: Mechanization and efficiency is the direction to go, regardless of the consequences to people.

——That "land grant college research is science for sale. . .it is a pedantic and cowardly research system and America is the less for it."

—That the complex includes institutionalized racism. In 1890, a number of black land grant colleges were set up and still exist. They get only a small fraction of the $650 million, much less than they should; their research funds are curtailed, and few men from these black colleges get representation on the associations dominated by the white land grant colleges.

—That when terrible conditions in the migrant labor camps at Cornell University's orchards were revealed, a labor spokesman said $10,000 was needed to improve the camps to decent standards. Cornell responded by buying mechanical harvesting equipment at many times the cost of camp improvement, then bulldozed the camps and washed its hands of the migrants.

Here's a few other things they found and described in the 308-page report:

—2,000 farm families are still leaving the farm each week, many of them bound for destitution in city slums, while the Secretary of Agriculture, whose programs are directly responsible for the establishment of big business farming and the subsequent migration by the small farmer, shrugs his shoulders and calls the movement off the land "inevitable."

—That the colleges of agriculture and experiment stations do agribusiness's research for it at the taxpayers' expense, while ignoring the needs and welfare of the small farmer. Much of the $650 million yearly goes directly to support research on new chemical and artificial techniques for growing and processing food by large conglomerate agribusiness enterprises.

—Two universities spent tens of thousands of dollars researching grass for golf courses and football fields.

—They found some small fraction of the complex's funds went for housing studies for the rural poor. When they investigated, they found the money was spent on research for building contractors.

—That members of the boards of directors of agribusinesses, the boards of directors of land grant college corporations, and officials of USDA bureaus are often the same men. At the same time.

—That Congress has failed the small farmer by not forcing, through its appropriations committees, the land grant college complex to serve the needs of all farmers, not just the big money boys.

"Land grant college research is agribusiness research. Projects are designed with agribusiness interests in mind, frequently with agribusiness participation. Whether the need is an irrigation system, a new shaped tomato, a plan for vertical integration, a chemical solution for processing vegetables, a new food product or an electronic checkout system for supermarkets, land grant researchers stand ready and able to assist, irrespective of other interests in rural America.

"The great majority of rural Americans are strangers to these public laboratories that were created to serve them. When research does not ignore them, chances are it will work against them. If they do get help, it comes either in the form of a meager trickle that has been carefully sluiced and strained upstream, or in the form of irrelevant and demeaning sociological probes into their personal habits."

Environment Action Bulletin—May 20, 1972

NEW YORK TIMES
Sunday, June 4, 1972

Farm Research:

The Hunt for A Seedless Cuke

"Hard Tomatoes, Hard Times." That's the title of a 308-page critical study of the agricultural research being done at the nation's tax-supported land-grant universities released last week by the nonprofit Agribusiness Accountability Project. Much of the research, the study said, is "absurd" and "frivolous." It cited the search to discover: A hard tomato that would withstand mechanical picking (it turned out to be tasteless) . . . how hard shoppers should squeeze grapefruit to determine firmness and texture . . . a seedless cucumber . . . a way to cross broccoli with white cauliflower and come up with green cauliflower.

But all of the research is not on this level. According to the study, a great deal—perhaps as much as $1-billion a year in tax dollars—is devoted by the land-grant complex (the agricultural colleges and universities, experiment stations and state extension services) to projects that work to the advantage and profit of large corporations involved in agriculture, while almost no research is devoted to the problems of the small farmers, farm workers and rural communities — and consumers. As a result of the technological developments on the farm, the study charged, about a million people a year are being shoved off the land into the cities as "the waste products of an agricultural revolution designed within the land-grant complex. Today's urban crisis is a consequence of failure in rural America. The land-grant complex cannot shoulder all the blame for that failure, but no single institution — private or public — has played a more crucial role."

HOUSTON CHRONICLE
D. 302,041 SUN. 353,214

JUN 4 1972

Attacks Land Grant College System

Cheap Food No Bargain, Washington Group Contends

BY NELSON ANTOSH
Chronicle Agriculture Editor

A Nader-like group in Washington has taken the moral backing of two farm organizations and launched a full-scale attack on the country's land grant college complex, blaming it for the decline of the small farmer and indirectly for the problems in cities.

In a report entitled "Hard Tomatoes, Hard Times," the Agribusiness Accountability Project claims that these colleges have performed research for the benefit of large corporations while ignoring family farmers, farm workers, and consumers.

The "Hard Tomatoes" are in reference to varieties of tomatoes bred with skin tough enough to be harvested mechanically, and the "Hard Times" is in reference to small farmers.

The Agribusiness Accountability Project is sponsored by the Project of Corporate Responsibility and the Center for Community Change, the latter which sponsors 19 different groups including some in Watts and Harlem.

The Project is funded by grants from the Field Foundation of New York, an offshoot of the Marshall Field family (the department store Fields) in Chicago. It claims support from both the National Farmers Union and the National Farmers Organization.

The Project claims it made a six-month study in Washington and also visited the campuses of the University of California, Cornell University, University of Florida, Iowa State, University of Maryland, Michigan State, North Carolina State, Purdue and Texas A&M.

The report concedes that these colleges, plus the experiment stations and extension services attached to them, have made a mind-boggling contribution to the productive capability of agriculture, primarily through mechanical, chemical, and genetic research on crops.

But this cheap food isn't so cheap after all when one considers the byproducts of the agricultural revolution, it adds. "It is a question of whether the achievements outweigh the failures, whether benefits are overwhelmed by costs. It is the finding of the Task Force that land grant college research is not the bargain that it has been advertised," the report says.

Each year about a million rural people, farmers, farm workers and small town residents pour out of the countryside into the cities. "They are the waste products of an agricultural revolution designed within the land grant complex," it states.

Mechanization of agriculture has not been pressed by the land grant complex as an alternative, but as an imperative, it claims. But the mechanization has been to the benefit of processing companies like Del Monte, Heinz and Campbell; and the overall research effort has helped primarily only the largest-scale growers, farm machinery and chemical companies, it continues.

"The public subsidy for mechanization actually has weakened the competitive position of the family farmer," the report states. "Anything that is good for agribusiness is not necessarily good for agriculture, farmers and rural America or the consumer," it concludes.

"Instead of adopting the morally bankrupt posture that millions of people must 'inevitably' be squeezed out of agriculture and rural America, land grant colleges must turn their thoughts, energies and resources to the task of keeping people on the farm, in the small towns and out of the cities. It means turning from the erroneous assumption that big is good, that what serves Ralston Purina serves rural America."

But the report fails to come to grips with the enigmatic problem of farm workers displaced by machines, while at the same time small farmers are being forced out of business because labor is difficult and often impossible to obtain.

Land grant colleges have apparently made no public comments on "Hard Tomatoes, Hard Times." But when asked about it, Dr. H. O. Kunkel of Texas A&M said the group "came to a conclusion first, and then chose to find data to prove it." The study of A&M involved little more than looking at annual reports and one visit by a girl from the Center for Community Action who took no notes.

"I can categorically state that research at A&M is not controlled by corporate or vested interests and never has been," the dean of agriculture added. He termed the conclusions of the group "irresponsible."

Dr. Kunkel says that public laws passed years ago assigned the colleges of agriculture the responsibility for food production at a cheap price. "Now they're coming back and asking us to evaluate this thing in terms of human relationships, which is far more difficult."

"We've gone to Congress and asked for more appropriations so we could answer these human problems, but Congress has not chosen to give us much in this particular situation," Kunkel added.

Research Group Hits Land-Grant Colleges

The Agribusiness Accountability Project, an independent research organization funded by foundations, has charged the nation's tax-supported land grant universities with serving corporate agribusiness at the expense of consumers, farm workers, family farmers and rural America generally.

"Today's urban crisis is a consequence of failure in rural America," declares the Project's critical study, "Hard Tomatoes; Hard Times." "The land-grant complex cannot shoulder all the blame for that failure, but no single institution--private or public--has played a more crucial role."

James Hightower, project director, told a press conference last Wednesday that his group will soon file lawsuits against various land grant universities in an effort to force them to serve the public interest instead of special corporate interests.

In response to the report, the National Association of State Universities and Land Grant Colleges issued a preliminary statement declaring that "great agricultural achievements are not accomplished without some side-effects, and the accusation that the land-grant colleges and universities have been taken over by the great food conglomerates and have driven the little farmer out of business tends to overlook the dazzling array of abundant foods this cooperation has made available."

Garv Hudgins, the association's executive director, told CNI Weekly Report his organization planned to study the report in detail and issue a formal reply during hearings on the land-grant complex scheduled for June 20 before the Senate Migratory Labor Subcommittee.

The report raises the following accusations against the land grant college complex:

*** It has fostered gains in "strict economic efficiency" at the expense of groups and individuals adversely affected by technological change. Of 6,000 scientific man-years of research conducted at government-financed agricultural research stations in 1969, only 289 hours were devoted to the needs of rural people and their communities.

*** University research in cooperation with food corporations often has produced less desirable food for consumers. One example is "hard tomatoes"--which gave the report its title--developed to withstand machine picking.

*** Advisory committees appointed by USDA to oversee research have rarely included representation from "the rural nonfarmer, the small farmer, the leaders of rural communities, and the consumer."

*** Land grant colleges are guilty of numerous conflicts of interest in their relationships with agribusiness corporations. "It is difficult to find the public interest," the report states, in relationships in which it is impossible to tell "where the corporation ends and the land grant college begins."

For example, colleges have been involved in designing machines to harvest 25 different food crops, ranging from apples to tomatoes, with efforts often duplicated at several campuses. Five institutions are working on mechanizing the harvest of strawberries.

Cornell built a factory to test methods of production for food processors and studied the profitability of supermarket operations in cooperation with the National Association of Food Chains.

Similarly, Ohio State tested plastic-coated cartons for dairy products; Virginia Polytechnic Institute studied factors affecting the shelf life of sweet-potato flakes, and the University of Wisconsin developed a fast process to produce mozarella cheese that was "mild but satisfactory for normal uses."

*** "To a large extent, agribusiness firms bought their way into the (land-grant) community." In 1970, for example, chemical, oil and drug companies paid $227,158 in contributions for research at the University of Florida's Institute of Food and Agricultural Sciences.

*** USDA's extension service has helped market agribusiness products while failing to implement a 1955 law relating to the special needs of rural people and communities.

*** Black land-grant colleges, created in 1890 in 16 Southern and Border states, are discriminated against in receiving less than one percent of USDA land grant and research funds in those states.

*** Land-grant colleges are not required to make adequate public accounting of their activities, particularly those conducted in partnership with agribusiness corporations.

The study recommends an audit of the land-grant complex by the General Accounting Office (GAO), the Congressional watchdog agency, a reopening of Congressional hearings into the fiscal 1973 agricultural research budget, and legislation prohibiting "conflicts of interest" between college officials and agribusiness corporations.

"The land grant colleges must get out of the corporate board rooms," the report concludes. "They must get the corporate interests out of their labs. They must draw back and reassess their preoccupation with mechanical, genetical and chemical gadgetry. The complex must again become the people's university. It must be redirected to focus the preponderance of its resources on the full development of the rural potential."

Copies of "Hard Tomatoes; Hard Times" are available at $2.50 per copy from Agribusiness Accountability Project, 1000 Wisconsin Avenue, Washington, D. C. 20007.

Congress Urged to Delve More into ARS Budget

By KEN SCHIEBEL

WASHINGTON, D.C. — Congress was urged to re-open hearings into the Department of Agriculture's proposed 1973 Agricultural Research budget.

The call came from the Agribusiness Accountability Project in a 300-page report entitled "Hard Tomatoes, Hard Times," (The Packer-June 3).

Essentially, the document was a critique of land grant colleges, the extension service and agricultural experiment stations, accusing them of failing to "adequately respond to the critical needs of rural America."

Project director Jim Hightower said his group may file lawsuits against certain land grant colleges to require them to carry out the "original purpose of serving rural communities and consumers."

The report claimed that there are many examples of research done to benefit agribusiness corporations, including developing a tomato with "hard skin," so that it could be better handled by a tomato picking machine — "also developed at taxpayers' expense."

Sen. Adlai Stevenson (D-Ill.), chairman of the Senate Migratory Labor Subcommittee, announced he will hold hearings. "We will be asking whether or not the land grant college system has been serving the people it was intended to serve," he said.

The recommendation to review agricultural research spending came at a time when ARS is being reorganized.

There has been criticism that the ARS shakeup will doom two programs important to the produce industry — the Market Quality Research Division and the Transportation and Facilities Research division. The programs involve marketing research from the farm through the retail outlet.

At USDA officials justified the reorganization on the grounds that decentralization is needed to get the decision making process out in the field.

The Agribusiness Accountability Project made seven recommandations. One called for a full scale public inquiry into the land grant college complex.

The second urged congress "to re-open this year's hearings on the Agricultural Research budgets in order to conduct a serious and meaningsful examination of those budgets, including a detailed look at the exact nature of the land grant research now under way and proposed for FY 1973."

A further recommendation called for restructuring advisory and policy making "so that there is broadened input for research planning."

Other recommendations involved alleged racial discrimination, so-called conflicts of interest involving land grant officials and private corporations, and public disclosure.

The report complained that the nation's land grant universities serve corporate interests instead of those of consumers, family farmers, workers and rural America.

The project is a nonprofit research group, financed by the Field Foundation. The land grant colleges spend about $1 billion a year — which the report said goes "almost solely for efforts that have worked to the advantage and profit of large corporations involved in agriculture."

Another charge said university research in cooperation with food companies not only produced "hard tomatoes" which are not desirable for consumers but also cattle fattened with chemicals suspected of causing disease.

The report said: "Had the land grant community chosen to put its time, its money, its expertise, and its technology into the family farm rather than into corporate pockets, then rural America today would be a place where millions could live and work in dignity. The colleges have mistaken corporate need for national need. This is proving to be a fatal mistake for the people of America. It is time to re-orient the colleges to act in the public interest."

The report noted in passing that Secretary of Agriculture Earl L. Butz and Clifford Hardin, his predecessor, were examples of the close ties between agribusiness and land grant colleges. When Butz took office, he stepped down from the board of directors of Ralston Purina Company. Hardin became a member of the board.

Page 2A—THE PACKER, Sat., June 10, 1972

What's Gone Wrong With the Tomato?

> *"Tomatoes used to spurt driblets of red liquid. Now you have to cut them with a saw and then they just sort of sag quietly."*
>
> **Henry J. Stern, first deputy commissioner, New York City Department of Consumer Affairs.**

By NADINE BROZAN

Where, oh where are the tomatoes of yesteryear, the ones that were flame red on the top and lime green on the bottom, the ones that were misshapen, cracked, disease-prone, the ones that ripened unevenly, spoiled quickly, didn't pack neatly—and tasted, some people insist, better than anything you can buy today?

The tomato of yore has gone the way of homemade root beer, milk topped with cream and grandmother's preserves: the way of science and technology.

But there are those who lament the price of progress, and their chorus has many voices.

Criticizes Flavor and Texture

"Tomatoes used to spurt driblets of red liquid. Now you have to cut them with a saw and then they just sort of sag quietly," said Henry J. Stern, first deputy commissioner, New York City Department of Consumer Affairs.

"Most of them stink. They have practically no flavor and a wooly texture," said James Beard, the noted food expert, who admitted, "I now use canned tomatoes for cooking; it's impossible to use the fresh ones."

"They don't have enough taste," said André Soltner, chef and part owner of Lutèce. "I'm not satisfied, but we must live with them." And live with them he does, 25 to 30 pounds a week, for they are essential ingredients of his truites Monegasque, tournedos chasseur, and sauce Choron.

"They're inedible. They're like eating a blotter," said Edward Giobbi, author of "Italian Family Cooking." Mr. Giobbi cultivates 150 plants and cans 100 quarts of tomatoes in his Katonah, N. Y., garden each year to spare himself from supermarket offerings.

Why, why, why, they all lament. The answer, for better or worse, lies in the conversion of tomatoes from grow-them-yourself or local truck farm commodity to a gigantic nationwide industry that last year yielded 6,437,000 tons of tomatoes, 885,000 tons of which were marketed fresh.

According to United States Department of Agriculture statistics, tomatoes ranked fifth in vegetable production, behind lettuce, onions, cabbage and carrots. (The department classifies the tomato as a vegetable although academicians and scientists consider it a fruit.)

It may not be nice to fool Mother Nature, but the law of supply and demand, which now deems that "Thou Shalt Eat Tomatoes Year-Round," despite the fact that they flourish only in sunny, 65-to-85-degree weather, requires some tampering with nature to insure plentiful, hardy, disease-free crops.

Maturation Controlled

The saga of the tomato from vine to dinner table can now encompass thousands of miles and a trip longer than it takes for man to reach the moon. To endure, most tomatoes that are to be shipped from a distance (say, from Florida to New York, as they are in the winter) must be picked green and ripened artificially. And therein lies a major problem.

As Paul Taylor, an official with the New Jersey State Department of Agriculture, put it: "If a fruit is picked early, it doesn't have the opportunity to reach its full potential. The closer to vine-ripened it is, the better it tastes."

Somewhere on the long voyage in refrigerated trucks or trains—with stops at both ends for packing, sizing, grading, repacking—the tomatoes may be held in temperature- and humidity-controlled environments to speed up or slow down maturation. Some are gassed with ethylene to give them the proper crimson hue or waxed to kill bacteria and, as E. R. Mead, an official with the Agriculture Department's Fruit and Vegetable Market News, explained, "to add sex appeal."

Contrary to the implications of the term "gassing," some experts say they think it helps the tomato. "Gassing is desirable," Mr. Taylor observed. "It causes the tomato to go into a dormant stage, and it can be held in a sleeping condition until it is ready to be packed."

Robert King, president of Tomatoes, Inc., packers and distributors in the Hunts Point market, doesn't quite concur. "Gassing to give quality hurts some varieties, while others are not susceptible to damage," he said. "They're sometimes gassed in one day and the outside gets color, but not the inside, and maturity must come from the inside."

Beyond innovations in harvesting and ripening methods, the new tomatoes are being bred specifically to withstand other vicissitudes of mass markets, as farmers come to think in terms of acres and tons rather than patches and pounds. And acres mean either increasing the labor force or introducing harvesting machines.

Changes Being Forced

"The basic reason for change is the difficulty growers have getting labor and the costs of that labor. It is forcing them into mechanical harvesting," said Dr. Stuart Dallyn, professor of vegetable crops at Cornell University's Long Island Vegetable Research Station.

"In order for tomatoes to be picked by machine [most are still picked by hand although mass mechanization is expected in the next two years], it was necessary to develop varieties that are resistant to rough handling, that are much firmer, and, in the eyes of many people who like to think of tomatoes as large, juicy and relatively soft-textured, not so good," he said.

"The machine just can't pick that kind," Dr. Dallyn continued. "Tomatoes are

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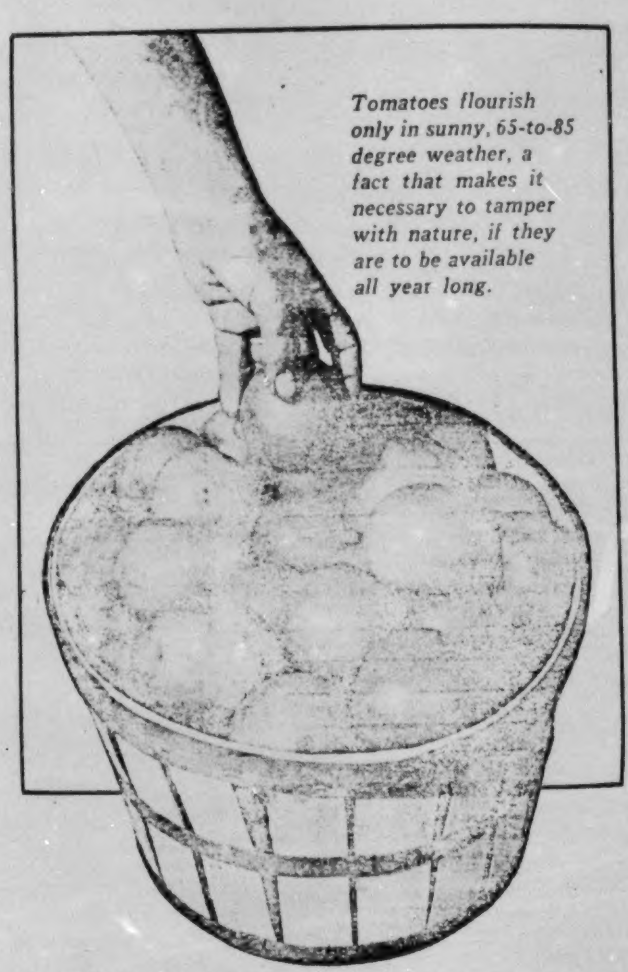

Tomatoes flourish only in sunny, 65-to-85 degree weather, a fact that makes it necessary to tamper with nature, if they are to be available all year long.

handled as a hardware item, they are hard and green, handled quickly in bulk and thrown around. So the new ones have a much stronger skin, more pulp than juice."

As for flavor, he commented, "The new varieties are nearly the same, but the texture is different, and texture affects taste."

Succulence Just a Memory

The question of whether the development of new strains and hybrids has affected flavor is like debating the merits of two vintages of wine.

A New Jersey home gardener, who has just put in this year's plants, said he thinks it's impossible to recapture that old-fashioned succulence even when he grows them himself.

Others, however, such as Charles Wilson, catalog editor for the Joseph Harris Company, seed producers, and Dr. Carl D. Clayberg, a geneticist at the Connecticut Agricultural Experiment Station, say today's varieties are as good, if not better, than their predecessors.

"Some are certainly better, some are worse, but the overall picture of flavor hasn't changed," Dr. Clayberg said. "We don't know how flavor is inherited or if it's adversely affected [by changing strains]" he added. A few breeders are just beginning to study this.

"I've been growing tomatoes for 15 years, and every year I hear someone say they're not as good anymore. I think if I had been growing them 50 years ago, I would have heard the same complaints," he speculated.

Mr. Wilson, whose 93-year-old Rochester-based company produces 25 or 30 varieties for home and commercial use—all told there are hundreds of kinds — agreed. "Many of the varieties in general use now taste much better."

How does he know? "There are machines that measure such things as sweetness and tartness," he explained.

Controversy is nothing new to the beleagured tomato. Although a staple of the Italian cuisine since the 1500's, it was not eaten in this country until 1825 for fear that it was poisonous. At various times, it has been considered both a "pomme d'amour" or passion fruit and a good thing to hurl at politicians—it went splat nicely on their faces without causing serious harm.

The latest and as yet unresolved imbroglio landed in the Federal Court of Appeals last year in a dispute between the Florida tomato growers and the Arizona importers of Mexican tomatoes over minimum size requirements.

The city's consumer affairs commissioner, Bess Myerson, claimed that Agriculture Department rulings — vine-ripened tomatoes must be 2 17/32 inches in diameter; mature green tomatoes must be 2 9/32 inches—raised consumer prices by at least 40 per cent and deprived New York consumers of the smaller, vine-ripened Mexican varieties.

And the tomato consumer himself is not entirely blameless, according to Lynn Anthony, a Danbury, Conn., vegetable landscape gardener, who plants organic tomatoes for friends and a few clients.

"The American consumer suffers from greed, and when you deal with nature, you can't be greedy," she said.

"There's a time for strawberries, a time for asparagus and a time for tomatoes, but we've broken down nature's timing and want everything 24 hours a day. If we weren't demanding tomatoes all the time, perhaps the producers wouldn't have to supply them unnaturally."

Senator STEVENSON. Our next witness is Mr. James McHale, Secretary of Agriculture of the Commonwealth of Pennsylvania. Secretary McHale is a farmer, and I understand that he has taken some very positive steps to make research responsive to rural development and the needs of rural people in Pennsylvania.

Thank you for joining us this morning, Mr. McHale. You have a statement. I would be glad to enter that in the record at the end of your testimony if you would like to summarize it.

STATEMENT OF JAMES A. McHALE, SECRETARY OF AGRICULTURE, COMMONWEALTH OF PENNSYLVANIA

Mr. McHALE. Thank you, Mr. Chairman. Mr. Chairman, my name is James A. McHale, Secretary of Agriculture for the Commonwealth of Pennsylvania. I would sure like to thank you for holding these hearings. I have been in this since 1957. I want to compliment Mr. Hightower for his very fine report, "Hard Tomatoes, Hard Times."

As I said before, this interest stated with me back in the 1950's when I was milking cows in Pennsylvania and saw the problem, as I see it, tied in with agribusiness and land-grant colleges.

I would like to go one step further and include many State commissioners, or secretaries of agriculture. Before I became secretary in Pennsylvania, the secretary of agriculture and all top staff people had been Penn State or land-grant university graduates. The common question when those people met was: What year did you graduate from Penn State?

To bring it a little closer to home, back in 1954 to 1962, when the Democrats were in power in Pennsylvania, William Henning, a Democrat, was secretary and Leland Bull, a Republican, was deputy secretary of agriculture. They both were from Penn State. From 1962 to 1970, Leland Bull was secretary of agriculture and Jack Grey was deputy. They just passed from one Penn State graduate to another.

When I became secretary, a man by the name of Jack Grey could not figure out why I did not want to keep him on as deputy to keep this relationship with the college and the agribusiness crowd. I called this an exclusive club, and I do not seek membership in it.

The secretary from the academic field looks on research as a tool to do about three things. Their interest is to help agribusiness, and they share the view of "get big or get out," and they totally ignore the role of agriculture and rural development at the farmer level.

I do not think agricultural research has done anything to solve the problems of rural America. I think the same is true about outmigration. I am talking about the outmigration we have had in the State of Pennsylvania for the last 10 years. We had 400,000 people leave the State, 360,000 were from rural areas. It is strictly because of lack of opportunity and their needs: transportation, water, sewerage, housing health services, and adequate educational and cultural opportunities.

We have about 63,000 farms in the State of Pennsylvania. This is about half the number of farms we had 20 years ago. It is strictly because of lack of opportunity. If we would take a long hard look at what effects 90 percent parity in rural America, we see that it would add $15 billion to the rural economy. We are talking about $105 billion cash flow in rural America. I think we need to revitalize and recapitalize everything in rural America.

In Pennsylvania we have counties with 30 percent of our population over 65 years old, and over half the income of these counties is from Government checks.

I might add that I have no ties with Penn State University. I am one of the few State secretaries of agriculture who ever became secretary by way of the farm and not the university. I do not expect any large feed companies to draft me at $100,000 a year when I finish this job. I do not intend to be playing musical chairs in the game that goes on between USDA and private industry.

I do not expect Penn State to tap me to do some research for them. If I sound bitter, perhaps I am a little bit. The fact is, when I was milking cows in 1946, there were 50 dairymen in that township. Today, there are three left. There is real poverty there.

In 1959, the price of milk got down to $3.06 a hundred. Our county agents, part of the land-grant college system, had the nerve to come out to us along with one farmer organization, that I label as a John Birch Society in overalls, to tell us how to get more efficient and produce more, because the price of milk might drop to $2.50. That is when I went on the warpath and tried to do something for the farmers.

This hearing is really the first breakthrough that I have seen, Senator, where people of your stature show great interest in real human needs out there.

This production-efficiency research has put millions of farmers out of business. It has played right into the hands of the machinery dealers. We had efficiency milking cows. We became so efficient that my wife, our boy, and I were able to milk 70 cows with no hired help. I was able to get up at 4 in the morning and able to work until midnight. When the boy was 2, I had him out on a tractor. He slipped the clutch so I could stay in the gutter and throw the manure.

By the time my boy was 10, he could run any piece of machinery we had. My wife could take care of a 9-room house and during our last year on the farm, bale and chop 300 acres of grass.

We have ended up with this efficiency where net farm income is at the lowest level since 1933. At the same time, the farm debt is $63 billion, three times what it was 10 years ago. I do not think this can really continue in this way.

I would like to point out in my testimony what I am talking about when it comes to comparing 1952 farm income with today. To buy a 30–39 horsepower tractor in 1952 it took 1,283 bushels of wheat. Today it takes 3,074 bushels. With corn, it took 1,659 bushels; today it takes 3,291 bushels.

To buy a 12-foot self-propelled combine back in 1952 it took 2,483 bushels; today it takes 8,051.

I do not think I will go on down the line, but that is on page 6 of my testimony.

This comparison shows why rural America is really sick. When I became secretary of agriculture, I wanted real action. But I guess we have done such a poor job as farmers and rural Americans telling city people and legislators the story that the Pennsylvania Department of Agriculture does not have a large enough budget or enough employees. The Pennsylvania Department of Agriculture is getting about 29/100ths of 1 percent of the State's budget to represent the State's second largest industry. Because of this, I started working with other State and Federal agencies. We held poverty hearings in three different areas of Pennsylvania.

I thought I knew the real bad problems, but when I went out and held those hearings, I found I did not.

One lady brought in a glass of water, and the water she brought in looked like coffee. She said that really did not tell the story because she had a filter with it and it had been on for 3 days, and this filter stunk so bad you could not get it up to your nose.

She said she had taken the tadpoles and the green gook off the filter before she brought it in. She was paying $7.50 a month for household use of that water. She had complained time after time to the PUC about the problem with no results. She started talking about her sewer being clogged up. Her testimony revealed that she was talking about an open-ditch sewer.

Those are some of the conditions in rural Pennsylvania. I made a promise to the people there that we would do something in agricultural research that was different. I have $400,000 a year that comes from State harness racing proceeds to be spent on agricultural research. Our attorney general said that the words "agriculture" and "rural" meant the same thing; that I could use this money for rural development. So I proceeded to authorize a health service research survey. That was when I really got into a donnybrook with the establishment power structure, because Penn State University felt that money should automatically go to them without the State department of agriculture asking any questions.

But I proceeded, and out of those moneys I originally authorized a $76,000 health research project—now I am going to spend $545,000 that I have put together on health services and other rural development problems with the cooperation of Pennsylvania Department of Public Welfare.

I told the Agriculture Research Advisory Committee with whom I work, that the aims of my administration were different from those in the past. We are interested in farm income and rural development. I set up new guidelines to use for new research projects.

The first question I asked: Does it benefit the family farmer? Does it make an economic contribution to all citizens of Pennsylvania? Does it revitalize rural Pennsylvania? Does it seek answers to current critical problems? Does it include cooperating funds from other sources? Does it indicate that scientific knowledge will be advanced? Does it fall within the realm of applied agriculture research, rural development, or market improvement and expansion?

I would like to give you a few examples of the way this money has been used in the past 5 years. Over $2.5 million went to the Pennsylvania State University and the University of Pennsylvania. One example was an apple harvesting mechanization. It was a 3-year project that began in 1967 at a cost of $78,000. The project was to develop mechanical harvesting equipment and harvest aids for tree fruits with special emphasis on apples, and to adapt and develop trees for efficient mechanized harvesting of the tree fruits.

This sounds like it was just cut out of Jim Hightower's presentation of "Hard Tomatoes, Hard Times."

Another one they wanted to develop was mechanized equipment for the nursery industry. This was a 3-year contract that cost $82,000. They said that the machines developed on this project have shown promising potential. This machine can dig 10 times more than a man with a shovel. My question is: What about the people? There is never anything said about the people.

Another thing that concerns me is the fact that the patent rights always go with the contract. In other words, they belong to the university, not to the department of agriculture. I am going to write it into our law that it has to come back to the State department of agriculture.

Senator STEVENSON. Would you please repeat that?

Mr. McHALE. The patent rights will come back to the State, Senator Stevenson. In the past, the patents have stayed with the university, and were quite often turned over to the large machinery manufacturers.

Senator STEVENSON. The license and rights to manufacture machinery under those patents?

Mr. McHALE. Right.

Senator STEVENSON. Under the license to the manufacturers the royalties go to the university as opposed to the State itself?

Mr. McHALE. Yes.

Senator STEVENSON. And the university uses them for what purpose?

Mr. McHALE. I would not know. I did not get into that, but I intend to have it put into our contract, that the royalties will go back to the State.

Senator STEVENSON. Thank you.

Mr. McHALE. Another kind of interesting project I dug into was nutritional and physiological problems encountered by mink producers. This was at a cost of $402,000. I looked at what we were getting. For 3 years in a row we got back a two-sentence report for this kind of money that said the dry diet was as good as the wet diet; it was a little more economical because it did not require refrigeration.

I became a little bit concerned about that, and I talked to the mink growers. They have an association. Come to find out, they did not agree any more than I did with the results that they were getting.

They had gone up to the university and tried to talk them into changing the direction of their research and they got absolutely nowhere.

Someone from my department was sent up, and they had a pretty good meeting of minds on what direction they are going to be going on that, and they are going to take a good hard look at it. I do not think the project can last over another year.

I have been told the same kind of mink research project is being carried on in nine other land-grant universities, and there is one contract the Federal Government has with the State of Alaska that runs out in the year 1999. If this is true, there is no need for us to spend this $402,000 studying the diet of minks.

Senator STEVENSON. Is a duplication of research opportunities in land-grant colleges a great problem, as you see it?

Mr. McHale. Very definitely. I have been told—and I have even got it pinned down, Senator, that it is going on in nine other land-grant colleges. The criteria that they use—I will get into that next—certainly is a little different.

A Governor's review board management committee looked at all phases of Pennsylvania State government. I was having this problem on research, so Governor Shapp had a man look into the matter. That report is attached to my testimony. It is the report of Fidelco.

That report shows Pennsylvania State University and the University of Pennsylvania at Philadelphia present these projects to our committee based on several things. These institutions admitted that these research projects are not necessarily the top priority. When they cannot get the money anywhere else, they present it to us because of the exclusive club they have had in the past. Anything they sent down, was approved. So it was easy for them to get it. They made no effort to eliminate research duplication.

We proposed that our contract projects should be monitored. I pointed out that even the users who should benefit by the research could not even talk to their people. Their annual reports were so vague I wondered where the money went. The Fidelco report defined the procedure as sloppy cost accounting techniques. But I have some different words for it; it was just outright thievery as far as I am concerned.

Senator Stevenson. Some of these problems were documented in the January 24, 1972, letter to you from Fidelco Associates. Is that right?

Mr. McHale. Yes.

Senator Stevenson. We will make your complete statement and the statement from Fidelco Associates a part of the record and insert it at the end of your testimony.

Mr. McHale. Then, Penn State University itself said the presentation of those proposals was based on several considerations: contribution to the graduate program—I do not know what that means—and another thing they said was the value of the research projects in attracting and maintaining good faculty; contribution to an existing critical problem, and significance to the economy, and responsiveness to public opinion as interpreted by the institution.

I think it would really pay to read over that Fidelco report. There is quite a good bit there.

When you start bucking up against this power structure you find flack there. The agribusiness crowd in Pennsylvania was able to put together a bill to strip me of the power to use this research money.

Senator Stevenson. When you refer to the "agribusiness crowd," can you be a little more specific?

Mr. McHale. Oh, I think that includes in Pennsylvania the Council of Farm Organizations, and they represent everything from farm organizations to the machinery dealers. They have the people who work real close on the different councils with the machinery companies and those kinds of people.

Senator Stevenson. Associations of large growers?

Mr. McHale. Yes.

Senator Stevenson. You say farm organizations. Do you include in that the national organizations?

Mr. McHale. No. I seem to be able to get along pretty well with them. But there has been a running feud ever since I was appointed secretary of agriculture with the Pennsylvania Farmers Association. The Governor did veto H.B. 1343 which was passed by the legislature to take away my powers. Governor Shapp is concerned about the future of rural areas in Pennsylvania. He understands this power play.

We are in a good fight here. I enjoy a good fight. I really think we are going to win it. I think there is a future in rural Pennsylvania. I think the people are going to win some of these battles someday.

I would like to draw your attention to one other thing on page 2. I mentioned earlier that my views are opposite the views of Secretary of Agriculture Butz, who will be present here tomorrow. Secretary Butz, I would like to point out, was a member of the board of directors of Ralston-Purina and Stokely Van Camp. He is a speechmaker for General Motors, and was a faculty member and dean at Purdue University. I am sure he is not going to agree with much that I have said. However, as I pointed out earlier, I think the people are going to have their say about the direction this Nation is going to travel.

That concludes my remarks. I am willing to answer any questions.

Senator Stevenson. Could you describe in general the role of the Pennsylvania State Secretary of Agriculture? Would you tell us something of the statutory responsibilities of that office? I know the Secretary of Agriculture of Illinois, my own State, has among other functions responsibility for county fairs, inspection responsibilities, et cetera.

What in general do secretaries of agriculture do?

Mr. McHale. Senator, I think the responsibilities are really what you want to make them. I think the statutes in Pennsylvania are broad enough to include responsibility for rural development. I think that these things are very important. I could have come in as secretary and taken the salary and not caused any waves. But I have a feeling way down deep that something has to be done about these problems.

About 90 percent of our functions are regulatory, negative functions; dog law enforcement, the Food and Chemistry Division which handles food inspection.

The previous secretary of agriculture, Leland Bull, had a study done in 1969 in Pennsylvania on the future of the Department of Agriculture by the "Better Government Associates." It was a study that really points out the need for changes in policy direction that we are actually making.

The report recommended that the Pennsylvania Department of Agriculture get into rural development and people problems in rural areas. They will have to look inside the farm home to see what the situation is, instead of being strictly a regulatory agency.

Senator Stevenson. You have mentioned a number of times the funds you receive as Secretary of Agriculture of Pennsylvania. What are those funds? Are these appropriations to your office by the State?

Mr. McHale. These are moneys that come from the Harness Racing Fund as a percentage parimutuel betting. It is all by formula, and the way it operates is as follows—it starts out for education and other things—then, the moneys that are left over, up to $400,000 a year, go to the agricultural research program in the Department of Agriculture. This year it is down to about $310,000 for agricultural research.

Senator STEVENSON. That is a pattern across the country, is it not, of funds earmarked for agriculture from parimutuel betting? Can you generalize as to the use of those funds across the country?

Mr. MCHALE. No, I could not. I do not know what they use the moneys for. I just know the way ours have been used in the past, and the direction we are going in the future. I do not know about the other States.

But what really concerns me is all this duplication of effort. You see, as I pointed out, the universities are interested in how it benefits them. They are not interested in the people of the State. They admit that in a statement made to those who did the Fidelco report.

Senator STEVENSON. You mentioned use of these funds for purposes of rural health specifically, and the need for a rural health survey, if I heard you correctly. That is one of high priority. What other priorities do you have or do you think should be adopted by other States in the use of those funds?

Mr. MCHALE. I would like to see a lot more done on marketing and bargaining. We have a contract we are putting out in a couple of weeks on the feasibility of a milk plant over in western Pennsylvania so that the farmers can get control of their products.

You see many of these co-ops do not have any facilities and they really cannot bargain. They need a physical facility to handle milk.

That is one of the projects that we are going to be undertaking. We are going to do an attitudinal survey in the rural areas to try to find out what the rural people think, and how to get to the bottom of this whole bargaining procedure. But we are going to need help from you folks down here to get farmers the right to bargain.

I was down and testified last summer on the House Agriculture Subcommittee on Bargaining. The bills that are being considered here are too weak as far as I am concerned. We need a bill with real teeth in it for supply management in order to give us bargaining power equal to the labor unions and the giant corporations we buy from and sell to.

The reason I am getting off on these other things is the fact that nobody has been speaking out for the rural areas. In Pennsylvania, for example, we have a community affairs department which worked hand in hand with the city planners and Congress in order to get appropriations. The money had gone to the cities before the ink was dry on the legislation.

You see nobody knows how to package it in these rural areas.

So with this money I am able to get together, I am going to have trained people in each of our seven regions, one group on consumer affairs, one on rural development. They will be able to work with the rural communities and help package plans and money. They will be working with other State and Federal agencies such as Farmers Home Administration and Pennsylvania Department of Community Affairs.

We have started out on a housing project with the rural electric cooperatives. They have done a tremendous job in North Dakota. I have looked at what they have done; they have all kinds of money there because they have people who know how to get it.

We put up a thousand dollars; community affairs put up a thousand. It looks like we are going to get a real program going just from that little bit of seed money.

Senator STEVENSON. I found as a Senator of a State that one of the difficulties is that the funds made available by the Congress—for example, for water treatment facilities—often are not used because the small rural communities do not know about their availability.

They do not know how to go about applying for funds for water treatment facilities from the Farmers Home Administration.

Taking that as an example, do the State secretaries of agriculture work with USDA to educate rural communities about the Federal programs that are available for their help?

Is there a degree of cooperation between the State departments of agriculture and the Federal Department of Agriculture?

Mr. MCHALE. I would not say there has been a lot of cooperation in the past. I feel I was pretty well acquainted with the activities of their Farmers Home Administration and the ASCS, but in the past I have never heard of this being done in Pennsylvania. We feel we do have to get into this.

Senator STEVENSON. That is also something the land-grant college complex might get into, especially through the extension service.

Mr. MCHALE. Yes; I was up to Penn State a month ago for a couple of days. We are having the new acting dean of the college of agriculture down to talk to us. I think we are getting a little better understanding of the direction that we are taking. But I just put it flat: If we are going to cooperate, they are going to get involved in some of these things that I put a high priority on.

I have some hope of starting to change some of the things in Pennsylvania. They have not put any effort in the past, so to speak, on the social problems of people in the rural areas the way I see it.

Senator STEVENSON. You indicated before that those moneys, which I gather are primarily from paramutuel betting in Pennsylvania, went to the universities.

Mr. MCHALE. $2.5 million went to the University of Pennsylvania and Penn State the last 5 years. It was kind of a blanket approval.

Senator STEVENSON. What do you mean by blanket approval?

Mr. MCHALE. You see, the Secretaries of Agriculture have been coming from Penn State University. It was just one little cozy club—not much questioning. When it came to a contract for Penn State, it was almost automatically approved.

I talked to the man who wrote up the report on the year's research activities before I came in. He said that the hardest job he had ever undertaken was to try to substantiate what they had done with the $1.6 or $1.8 million that went to Penn State University.

Senator STEVENSON. Is that happening in other States, too, where funds are going from State departments of agriculture without much accountability by the land-grant college complex?

Mr. MCHALE. Senator, I could not say. I would rather just stay in Pennsylvania where I know what I am talking about.

We have set up these new criteria, and we have had no trouble coming up with projects that meet my criteria, so there has not been much going up there.

We are taking a real hard look at the ongoing contract. I am sure if we do not get more results, those contracts, such as the mink research contract, are going to be canceled.

If I find out that nine other universities are conducting the same kind of research, I know the contract will be canceled.

Senator **STEVENSON**. Why do they have such trouble meeting your criteria? Is it a lack of interest?

Mr. **MCHALE**. I think their problem is they do not understand the rural problems out there, No. 1, and No. 2, they do not care.

I look back at my own background, you know, and there are two things that influence a person's thinking: one is background and the other is the guy that writes your pay check.

They have had a nice cozy little setup with the machinery dealers, that agribusiness crowd; it never gets down to the grassroots.

Senator **STEVENSON**. You mentioned machinery dealers. Do you mean equipment dealers? Or are you talking about manufacturers?

Mr. **MCHALE**. I would have to say manufacturers. The reason I say machinery dealers, I keep thinking about the manufacturer that is based in Pennsylvania.

Senator **STEVENSON**. Is it your judgment that Secretaries of Agriculture who cooperate with the "agribusiness crowd," to use your expression, can expect lucrative agribusiness jobs when their terms of office are ended? Is that a pattern?

Mr. **MCHALE**. It has certainly been a pattern in Pennsylvania. They always get back to the Penn State University. They generally retire from there. It would be interesting if some of you would follow through on that investigation to see what happens to retired Secretaries of Agriculture.

Senator **STEVENSON**. Do you have any specific suggestions for the Congress? What should we be doing to make the USDA and the land grant college complex more responsive to the needs of the people?

Mr. **MCHALE**. Senator, if I answer you the way I feel, maybe I would say: Put a Democrat in the White House first.

Second would be a national commitment on rural America.

Senator **STEVENSON**. I would not quarrel with that suggestion. I do not know how the election is going to come out, but either way, what should we in Congress be doing?

Would you say that the Congress has been derelict in its duties to oversee the activities of USDA?

Mr. **MCHALE**. I very definitely think so. I think there has to be a national direction, a national commitment, from you folks who oversee the use of these Federal dollars going into research. Somehow you should require that criteria setup such as we are doing in Pennsylvania, some of these things I have pointed out in my testimony.

With the little money that we get, $400,000, we cannot really do the things that need to be done for the small farmer and rural people. It is just a drop in the bucket, but I have been able to use seed money, working with other agencies. That is my only hope.

Senator **STEVENSON**. Are you as critical of the extension service as Mr. Hightower was? I am something of a farmer in Illinois and my impression is the extension services are very popular among farmers. That does not necessarily mean that they are all good, but my impression is that they are valued by the family farmers in Illinois.

Mr. McHale. I am very critical of them. County agents along with this one farm organization told us at these educational meetings in 1959—and they still tell the farmers—"You have to get more efficient."

My God, the farmer has increased his productivity 330 percent in the past 20 years, more than any occupation group in the country, What the family farmer gets for this efficiency is to be driven off the land with these depression prices.

The farm magazines tell the farmer to get more efficient. So he goes and buys these bigger tractors, this, that, and the other, and the farm debt has gone up to $63 million.

Senator Stevenson. You said farm organization. Are you referring to the Farm Bureau?

Mr. McHale. I am, yes.

Senator Stevenson. That is in the nature of farming. Perhaps the farmer feels that he needs to become more efficient in order to come up with the figures about the bushels of corn, for example, that in 1952 it required only 1,659 bushels to buy a tractor and it now takes 3,291 bushels to purchase a larger horsepower tractor.

If that is the case, he is going to seek out the extension services, is he not, and do everything he can to increase his productivity so he can buy that tractor?

Mr. McHale. I guess it is either adapt or die with the attitude that we have with the USDA today.

I think the farmers are on a treadmill, that they are just falling off from exhaustion. My golly, where does he go? I have talked to farmers to get a meeting together at night around 8:30. A lot of them say that is too early because they have not got the cows milked yet.

I know what hard times are out there on the farm. I know what the farm debt is, but when I found out the whole story, that I could not milk enough cows, I har to lead the fight for better farm prices.

We have a situation in Pennsylvania—this is a little off the subject—where the chainstores are making 40 to 50 cents a gallon on milk with the retail price setting mechanism we have. That is their markup.

At the same time we have cooperatives going in all directions, cutting each other's throats in the northeast. We have one cooperative particularly that lost $1.4 million last year and is making only a fraction of a cent on a gallon on the milk they are selling; yet they let the chainstores make 40 to 50 cents a gallon.

I think we need an investigation on the chain store setup in this country. They control 60 percent of dairy products now.

Senator Stevenson. Getting back to the land grant colleges in Pennsylvania, you mentioned the difficulties you were having in persuading them to accept your own criteria for research. How did they make those decisions?

Did those universities have research advisory councils that determine their own research priorities?

Mr. McHale. I really do not know. I would say it is a policy decision by the dean and the different research groups that would work on different research projects. That is probably the way they determine it.

Senator Stevenson. Is it the the dean, the faculty?

Mr. McHale. I would say. I really do not know. They bring them down to us, and I do not know how they come to the conclusion on the ones to present to us.

Senator Stevenson. Is that something you could look into for us, the mechanics of the decisionmaking process within land-grant colleges in your State?

Mr. McHale. Yes.

Senator Stevenson. If so, would you let us know what you find, exactly how those decisions are made, by whom, and what the economic interests and ties are of the decisionmakers?

Mr. McHale. Another thing that would be awfully interesting, the students at Penn State checked the board of trustees, and that was quite interesting. There are interlocking boards of trustees of Penn State that serve on boards of large corporations that might be an interesting thing for you to look at. It was kind of interesting to me to see how the whole system works.

Senator Stevenson. Thank you very much, Mr. McHale. Your testimony this morning has been very helpful. I would like to thank you for telling us of your experiences, and I commend your efforts on behalf of the family farmer.

(The prepared statement of Mr. McHale along with correspondence from Fidelco Associates follows:)

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TESTIMONY

Before the United States Senate
Committee on Labor and Public Welfare
Sub-committee on Migratory Labor
Chairman Adlai E. Stevenson, III

Hearings on Land Grant Colleges

By

Honorable James A. McHale
Secretary of Agriculture
Commonwealth of Pennsylvania

Monday, June 19, 1972

Mr. Chairman, my name is James A. McHale, Secretary of Agriculture of the Commonwealth of Pennsylvania. I want to thank you for this opportunity to testify before your subcommittee on the value of agricultural research being done by the land grant colleges.

The Hightower report, HARD TOMATOES, HARD TIMES, may be the catylyst that brings about something I have been calling for over many years: change in the agriculture establishment of our Nation. That establishment has been so long entrenched in power aided, knowingly or otherwise, by land grant colleges that it has now become petrified.

The biggest part of the problem as I see it is the tie-in between agri-business, the land grant colleges, and a great majority of state secretaries or commissioners of agriculture. Gentlemen, that's a pretty exclusive club and one in which I for one seek no membership.

Too often State Agriculture Secretaries who come from the academic community look on research as a tool designed to do one thing: help agri-business. Too often they share a view held by a powerful group in agriculture: get big or get out. Too often these land grant lend-lease secretaries choose to ignore the family farmer's needs and hopes. And much too often, blinding themselves to the obvious, they say that rural development and agriculture have separate futures when the fact is that the two are so intertwined as to be inseparable. Let me read you a statement about rural development.

"Our cities have become too large and too congested, greatly increasing the cost of living and of doing business.

"The countryside is being depopulated; in some areas the population has fallen below the level at which needed public services can economically be provided.

Overcrowding in the great cities leads to lawlessness and disorder.

Considerations of equity argue for services to rural people that are comparable with those provided to people in the cities.

It is in the interest of national defense that the new increments of industry be located away from present manufacturing centers.

Excessive concentration of people in limited areas places great stress on the environment.

There are desirable non-economic qualities in rural living that would be lost if we were to continue the trend toward urbanization...

* * *

..."Rural development is a widening of the range of choice for rural people. So long as most of the increments of opportunity were built in the urban areas and farm jobs were diminishing, rural people had a very limited range of choice. If the various doors of opportunity are opened wider, the people themselves will select the door of their choice, and will choose wisely. The task of rural development is to help the people achieve the goals to which they themselves aspire.

We have in fact had, in the past, an implicit policy that drove rural people to the cities. What is now proposed is an explicit policy that gives them a choice.

"I do not believe that rural development is synonymous with economic development. The developmental process is not just economic, it is also social, political, and aesthetic. It is regrettable that the various social disciplines have contributed so unevenly to the understanding of this problem..."

* * *

That statement came from the United States Department of Agriculture's Director of Agriculture Economics, Don Paarlberg, Tomorrow you will hear from Secretary Earl Butz and I would hope that Dr. Butz would bear out Paarlberg's view.

Secretary Butz, a board member for Ralston-Purina and Stokely Van Camp, a speechmaker for General Motors and a faculty executive at Purdue has not often seen eye-to-eye with me on farm or rural development problems.

I have been pilloried in my state by entrenched interests for using minimal sums of money to build huge sums for a health care project in a rural area. My criteria for land grant college research will be detailed later but simply put, it comes to this. Let the land grant colleges answer the question, "Research for whom, research for what?"

The rural sector must recognize that when development monies become available the urban planners are right there with reasons why the monies should go to the cities. It is absolutely essential in my view that a substantial part of these monies must go for rural development to get at the root cause of the disease plaguing the inner core of our great urban areas. The sickness of the cities began years ago because this Nation saw fit to ignore the clear symptoms in the rural areas...the great outmigration that funneled millions of rural residents into a way of life they had no tools to cope with. The frustrations and fears of these people in a world they never made led to the freezing-in of the ghetto...eventually to Watts, to Newark, to anywhere the smoldering resentment of the displaced shot into flame.

Agricultural research has done nothing to stem the enormous outmigration in the past ten years in Pennsylvania of some 360,000 people from rural areas, who now glut our cities with an unskilled labor force that must depend on welfare. Research has done nothing to halt the disappearance of the small farmer. The number of farmers in Pennsylvania stands at about 63,000. There were twice as many 20 years ago.

My experience as a farmer and more recently as a member of Governor Milton Shapp's cabinet, leads me to conclude that research conducted at Pennsylvania State University -- the land grant college in my state -- has been of no benefit to family farmers and has done very little to help the plight of our rural communities.

I have no ties with Penn State, Mr. Chairman. I think I am one of the few or perhaps the only State Secretary of Agriculture who came to a cabinet post from the farm and not via the land grant college system route. That is why I am freer to criticize the evident partnership between academic research and big business interests. There is no job waiting for me at Penn State when my tenure with this administration ends. Nor, I am sure, will any large feed company draft me for a $100,000 job, playing the musical chairs game that goes on between USDA and private industry.

If I appear bitter about this situation, Mr. Chairman, please rest assured that I am. Rural America is being dried up by the unquenchable thirst of agribusiness, aided and abetted by the special interest research at land grant colleges.

The conclusion reached in "Hard Tomatoes, Hard Times," that the land grant college complex has hurt rather than helped rural people is fully applicable in Pennsylvania. We are also suffering from the social and economic upheaval occurring today in America's countryside.

When I began farming in 1946 in South Shenango Twp., Crawford County, there were 50 farmers. Now there are three.

I remember in the fall of 1959, when we dairy farmers were receiving $3.06 a hundredweight for milk, the extension agents had the nerve to come to Crawford County to hold educational seminars to improve our efficiency. They said we would have to become more efficient because milk prices would drop to $2.50 a hundredweight. I decided then that this system was killing us and would have to be fought.

Production efficiency research has driven us out of business because it plays right into the hands of the enormous inflationary rise of farm costs. Farmers were put on a treadmill and told that if they ran fast enough they could move ahead. Most of us have fallen off the treadmill and died of exhaustion.

It takes two and sometimes three or more times the bushels of grain to buy machinery and pay taxes today than 20 years ago. Here is a sample of what I mean:

ITEM		1952 BUSHELS	1971 BUSHELS
30-39 H P Tractor	Wheat	1,283	3,074
	Corn	1,659	3,291
12' self-propelled combine	Wheat	2,483	8,031
	Corn	3,210	8,622
1/2 ton pickup truck	Wheat	792	2,324
	Corn	1,024	2,488
4-door standard-size automobile	Wheat	943	2,882
	Corn	1,220	3,037
Real-estate taxes per 100-acres farm land	Wheat	36	195
	Corn	46	209
All machinery repairs per tractor on farm	Wheat	56	138
	Corn	72	148
Building repairs per farm	Wheat	68	191
	Corn	88	205
10-hour day of farm labor	Wheat	3	11
	Corn	4	12

Source: U.S D.A.

Economists have sought solutions by encouraging larger capitalization to support greater farm mechanization. This helped the large farmers and conglomerate agribusiness, but drove the small farmer off the land. With the rural countryside depopulating, it became impossible to sustain services for health, education, housing and transportation. Rural people sought these services in the cities and the vicious cycle of a degenerating money base in rural America continued.

As the Pennsylvania Secretary of Agriculture, I am empowered to determine how some $400,000 a year from state harness racing proceeds will be spent on agricultural research projects. This power derives from a state law passed in 1959 and amended in 1967.

The annual $400,000 appropriation is a drop in the bucket to do the job that is needed in Pennsylvania -- to revitalize, recapitalize and repopulate our rural communities. But when I joined Governor Shapp's cabinet in 1971, I felt this could be a starting point at changing research priorities, at making research people-oriented.

Most of the research money is spent on projects handled at Penn State's College of Agriculture. The School of Veterinary Medicine of the University of Pennsylvania also conducts projects financed by this allocation.

On reviewing various projects, I found that in the past five years about $2.5 million had been spent without any appreciable benefit to the farmer's economic condition.

I read about such projects as "Apple Harveting Mechanization," a three-year project begun in 1967 at Penn State at a cost of $78,500. The project of this research, and I quote, was "to develop mechanical harveting equipment and harvest aids for tree fruits with special emphasis on apples"; and "to adapt and develop trees for efficient mechanized harvesting of tree fruit." Gentlemen, this could have been taken out of the "Hard Tomatoes, Hard Times" report.

Another project, the "Development of Mechanized Equipment for the Nursery Industry, ran for three years at Penn State at a cost of $82,000. Researchers found, and I quote, "Tools and machines developed on this project have shown promising potential. Based on present data, the machine and one operator can dig ten times as many plants as one man can dig with a hand shovel in average soil conditions." I can only ask, what is supposed to happen to the people displaced by this machinery? What about research to keep these people employed? Apparently, nothing was being done for them.

The selection of research projects funded by harness racing proceeds is recommended to me by an advisory committee, consisting of a cross section of farm interests, members of my department and the deans of both colleges mentioned. I gave them new guidelines for considering new research projects. They are to ask these questions of a project proposal in this order of importance: Does it benefit the family farmer? Make an economic contribution to Pennsylvania citizens? Revitalize rural Pennsylvania? Answer a current critical problem? Include cooperating funding sources? Indicate that scientific knowledge will be advanced? Fall within the realm of applied agricultural research, rural development, or market improvement and expansion?

We tried to do something about ongoing projects. For example, a 20-year project begun in 1967 at Penn State for a total cost of $402,000 involves the "Nutritional and Physiological Problems Encountered by Pennsylvania Mink Producers." Without going into details, I can tell you this project was churning out little more than incomplete progress reports while the number of mink producers declined in Pennsylvania. I conferred with some mink ranchers, banded them together into a special advisory committee and the ranchers informed me of their dissatisfaction with the results of Penn State's project. We advised the college to do some meaningful research on mink feed or else lose the project.

I believe the most significant thing we have done was to allocate $76,000 for a department-sponsored health demonstration project in Coudersport, Potter County. The pilot project provides 14 free health tests to rural residents in six northern tier counties. Results of these tests are sent to the patient's physicians for followup treatment. Many rural people have not seen doctors for years, and our project has uncovered a number of treatable diseases.

The health screening project has actually cost the Agriculture Department only $40,000, a sum which has served as seed for $500,000 in Federal funds. Other hospitals across the state have observed the clinic in the Cole Memorial Hospital at Coudersport and have expressed interest in starting such programs on their own.

My Department has also gotten together with the Pennsylvania Department of Community Affairs in launching what we hope will be a vast rural housing project. Each department put up $1,000. The Pennsylvania Rural Electric Association joined in with additional resources, enough to hire people to develop specifications to attract funds from HUD, FHA, and other Federal agencies. The package has grown to more than $100,000 and I hope will increase to $1 million. This money will permit us to form a rural housing cooperative, patterned after a successful one now operating in North Dakota, which will generate housing in rural Pennsylvania.

These are small, but we feel important steps in coping with the immense problems of providing an adequate rural health delivery system and housing. This is where I think agricultural research should be in 1972. Research must help the small farmer who in 1970 had to struggle with an average net income of $1,059. It must solve the pressing problems of rural transportation, rural housing, and rebuilding rural communities.

Let me add that for my efforts to change the direction of agricultural research, the special agri-business interests in my state rapped my knuckles by succeeding in having the legislature pass a bill stripping me

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of my power to decide how to commit the harness racing proceeds on research. That power would reside in a newly constituted committee that is heavily weighted with agri-business representatives. The bill was vetoed Thursday by the Governor.

I believe the Governor was motivated in my behalf by the "Hard Tomatoes, Hard Times" report and by an independent study he initiated early in his administration. Called, the "Governor's Review of Government Management," the study found that research at Penn State and the University of Pennsylvania had little to do with rural development and market expansion --- priorities which the present agricultural advisory committee demanded as a basis for allocating harness racing proceeds.

The study found, and I quote, "that research projects submitted by these institutions for Fair Funds (derived from harness racing proceeds) are not necessarily their top priority projects. It would seem that Fair Funds are requested for these projects only when all other sources for funding have been exhausted.

The study cites no effort to eliminate research duplication, poor monitoring of contract progress, vague annual progress reports and sloppy cost-accounting techniques. A transcript of the review by Fidelco Associates Inc is attached."

We are attempting to correct this situation by setting up advisory committees, such as the one of mink ranchers I mentioned previously to make research accountable to the producers, the farmers themselves.

We have also revised our project proposal form to include such information as, sources of additional funds, biographies of researchers, and other agencies which may be cooperating.

We are also reforming patent regulations, an area of abuse cited in "Hard Tomatoes, Hard Times." Under our old contracts, patents remained the property of the researching institution. They could benefit from royalties as they wished. I now plan to have any contracts signed by me provide that patent rights be granted to the State. In this way the taxpayer can benefit from the use of his money for research.

Mr. Chairman, on a national level I would recommend this general course of action:

1. Increase funding based upon total rural population rather than the importance of production of food and fiber. Specifically, in Pennsylvania we have 3,500,000 rural citizens requiring human services; our Agriculture appropriations must consider the total rural community and not just the top 10% of the farm community.

2. Create new job opportunities - such as Public Service Employment.

3. Increase the availability of equitable financing - professional and technical assistance for the rural community.

4. Redistribute population by making our rural areas more attractive. This can be done by equalization of education

opportunities, health care systems, transportation opportunities, improved utility systems, and general human services, all of which should be a prime concern of agriculture research.

5. De-emphasize the Land Grant College self-policing concept and involve the people for whom the research is intended.

Thank you, Mr. Chairman, for allowing me to present this statement.

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January 24, 1972

The Honorable James McHale
Secretary, Department of Agriculture
Commonwealth of Pennsylvania
Harrisburg, Pennsylvania 17120

My dear Mr. Secretary:

Upon conclusion of the study, GOVERNOR'S REVIEW OF GOVERNMENT MANAGEMENT," the Honorable Milton Shapp requested that I conduct a brief review of the agricultural research projects that are currently funded by the Pennsylvania Fair Fund. This letter summarizes that review and documents the findings which were discussed with you and your staff during our meeting of January 20, 1972. It must be understood that the scope of the investigation was restricted by reason of the time allotted for the review.

BACKGROUND

Act. No. 298 of the General Assembly, approved November 30, 1967, provided that a portion of the funds accumulated in the State Harness Racing Fund was to be transferred to the Pennsylvania Fair Fund. These funds were to be distributed by the Secretary of Agriculture, as follows:

(1) To reimburse operating expenses of agricultural fairs;

(2) To support the marketing and consumer services of the Department of Agriculture; and

(3) To finance the agricultural research projects, to be determined by the Secretary from recommendations submitted by the Agricultural Research Committee. This committee includes the Dean, College of Agriculture, Penn State University, and the Dean, School of Veterinary Medicine, University of Pennsylvania.

The distribution of any remaining funds is accomplished by a committee composed of the Secretary of Agriculture, the Chairman of the House Agricultural and Dairy Industries Committee, the Chairman of the Senate Agricultural Committee and four additional members appointed by the Secretary of Agriculture.

The agricultural research projects (referred to in item (3), page 1, of this letter report,) may be submitted to the Agricultural Research Committee by any association, institution, or interested party. The relative priority of these projects is based upon the following guidelines:

1. Importance of the project to the agricultural economy of the Commonwealth of Pennsylvania;
2. Recognition by the public of the importance of the research project;
3. Availability of matching funds -- from industry, commodity groups, or other governmental agencies;
4. Availability of personnel and research facilities to conduct the project.

A further consideration was added on March 24, 1971, when the Agricultural Research Committee passed a motion which provided that, "... first priority be given to funding agricultural research projects related to rural development and market expansion ..."

As of December 31, 1971, Pennsylvania State University held seven research contracts totaling $87,214., and the University of Pennsylvania held one contract for $50,000. All of these projects are funded under the provisions of the Pennsylvania Fair Fund.

OBJECTIVE

Because of the Department's difficulty in monitoring ongoing research activities, and in light of the Department's desire to encourage projects which will provide direction for rural opportunities and market development in the Commonwealth, a review was requested of the present research contracts that are funded under the Fair Fund provisions.

APPROACH

The review was conducted in three phases, as follows:

PHASE I - Collection of Data

Interviews:

(a) Secretary of Agriculture and Staff, Harrisburg, Pa.,

... to obtain views on policies, scope and magnitude of Fair Fund research activities, and general procedure for project selection and monitoring.

(b) Vice President, Research, Penn State University,

... to obtain views on research importance, cost accountability techniques, and other internal project measurement methods.

(c) Director, Small Industry Research, Penn State University,

... to assess the scope of the department's activities and to obtain available statistics on research publication utilization.

(d) Dean, School of Agriculture, Penn State University,

... to discuss selection process for research proposals, systems used to control research duplication and monitoring process for all internal research contracts.

(e) Executive Director for the former U.S. Secretary of Agriculture, Orville H. Freeman,

... to obtain overview of (1) U.S. research activities and their impact on Pennsylvania's research efforts, and (2) the federal government's programs for rural development.

PHASE II - The assembling, evaluation and analysis of data collected.

PHASE III - The development and presentation of findings and recommendations.

SUMMARY OF FINDINGS

a) General

It was determined that almost all of the agricultural research projects presented to the Agricultural Research Committee are submitted by the University of Pennsylvania and the Pennsylvania State University.

Selection of those proposals to be submitted for research funds, is based upon several considerations. The principal ones are:

(1) contribution to the graduate program;

(2) value in attracting and maintaining good faculty;

(3) contribution to an existing critical problem;

(4) significance to the economy and responsiveness to public opinion as interpreted by the institution.

In addition, it appears that the research projects submitted by these institutions for Fair Funds are not necessarily their top priority projects. It would seem that Fair Funds are requested for these projects only when all other sources for funding have been exhausted.

Moreover, effort to detect and eliminate research duplication appears minimal; thus it is highly possible that similar research programs currently are underway or already completed. This finding appears substantiated through a cursory review in Washington of federal government agricultural research activities.

The description of work to be accomplished in present contracts is often vague. For example, it is difficult to identify specific milestones to be accomplished within given time or cost restraints. As a result, the monitoring of contract progress is extremely difficult.

Annual progress reports on these contracts are similarly vague. In some cases the progress reports related research findings that had been reported previously.

A review of cost-accounting techniques used for research contracts suggested a reluctance to impose sound internal control procedures. Rather, there appeared to be an overdependence on self-policing, based on the supposition that the level of professionals involved in these contracts would make any other monitoring unnecessary.

Although monitoring of requests for publications is a common indicator as to the usefulness of research projects, there appeared to be little effort in this area.

b) Specific Highlights

In addition to the general findings noted above, specific comments are made, here, relative to the six contracts reviewed.

(Note: The University of Pennsylvania contract for $50,000 was not reviewed due to time restrictions. The Penn State contract, "Ventilation and Controls Phase II - Mushroom Production," was not reviewed because relevant data was not readily available. Therefore, no specific comments on these two contracts are offered.)

On research contract, "Determination of Optimum Combination of Light, Temperature, Carbon Dioxide, Moisture and Fertility Levels for Greenhouse Flower Crops," it appears that the first two or three years of research activity produced 80 - 90% of the total to-date findings. For example, early in the contract it appears that the environmental modifications that produced desirable growth aspects, while minimizing undesirable aspects, had been determined. Further activities appeared only to confirm or expand the earlier developments. Therefore, it would seem that the research dollars expended after that time have provided a minimal return.

On the research contract for "Nutritional and Physiological Problems in Mink Production," it appears that in excess of $70,000 has been expended to develop an appropriate diet for minks from by-products of poultry, meat, and dairy processing industries. Further, the contract provides for the development of this diet in pelletized form, thus minimizing the transportation and handling problems that accompany fresh by-products. This development might help competitor States more than Pennsylvania, inasmuch as feed sources are located near or within the boundaries of our commonwealth. Total expenditure in this undertaking should approach $400,000, with potential annual savings to the mink producers of approximately $500,000. The employment impact on direct mink care and production is 200 people, and total cash receipts in the Commonwealth are less than $2.1 million. Therefore, it would appear that the large dollar investment by the Fair Fund would not provide significant return in terms of either employment or dollars in the State.

On the research contract, "The Selection and Management of Forage Species for Horses," it appears that while horses and ponies may have become increasingly important to the Commonwealth's economy, they have been important for many years to other States. Therefore, the selection and management of forage species for horses has been of long-time concern to these States, and it is probable that the demonstrated results of previous testings are currently available. Thus, research in this area might prove to be just a confirmation of practices utilized by other States. An in-depth review and evaluation would be appropriate prior to additional funding.

On the research contract, "Mechanization of the Production of Tomatoes for Processing," the funding for this year and next is minimal. The anticipated jobs that could develop from increased machine operation would provide employment opportunities for rural Pennsylvanians, while decreasing the need for migrant workers. Therefore, the Commonwealth's small investment has a potentially high rate of return in terms of rural job development. In addition to job opportunities created by machine operation, the requirements for operators and for servicemen and repairmen should also provide job opportunities. However, labor savings resulting from machine production may not necessarily be evident in farmers' profits. Lower prices paid for tomatoes may evaporate anticipated profits.

On the research contract, "Wine Grape Production," the present annual investment - to develop a new industry in Pennsylvania - is $7,500. Favorable findings could provide new opportunities for rural Pennsylvania. However, a review of the research work accomplished on wine grape production by the State of New York might eliminate unnecessary or wasted research efforts in Pennsylvania.

On the research contract, "Genetic Relationship Between Milk and Meat Production," some of the findings reported in 1970 had been noted on previous progress reports. It would appear that after the research efforts of 1967 and 1968, the return per dollar invested, in terms of further contributions, was minimal. In addition, other dairy States appear to have conducted similar activities, which would suggest a thorough review of their efforts prior to further funding by the Fair Fund.

GENERAL RECOMMENDATIONS

Summary

1. Increase the sources of agricultural research proposals beyond the present few.

2. De-emphasize the value of the research to the institutions, and emphasize the value to the Commonwealth of Pennsylvania.

3. Increase the research activity search, both before approval of funding and during contract duration, to minimize duplication. This is especially important when studying entry into industries which are already established in other States.

4. Change the proposal format so that milestone accomplishments can be clearly identified within dollar and time constraints, enabling an individual untrained in academic research to assess program progress.

5. Re-write contract form (i.e., description and work to be performed, and provide for greater Commonwealth control over acquisition and disposition of plant, equipment, etc.)

6. Develop annual progress reports which complement the proposal format, enabling a review of specific accomplishment vs. time and dollars expended.

7. De-emphasize the self-policing concept and emphasize sound cost-accounting techniques as a method of internal control.

Senator **Stevenson**. We were scheduled to hear next from a panel on the black land grant colleges. The panel is not here yet, so we will jump ahead to hear next from Mrs. Alice Shabecoff, executive director of the National Consumers League.

The National Consumers League is the oldest consumer organization in the Nation. It was founded in 1899.

We look forward to Mrs. Shabecoff's testimony, and to the sampling of her exhibits.

STATEMENT OF ALICE SHABECOFF, EXECUTIVE DIRECTOR, NATIONAL CONSUMERS LEAGUE

Mrs. **Shabecoff**. My name is Alice Shabecoff. I am executive director of the National Consumers League. The League is the oldest consumer organization in the United States. It began back in 1899, in the era of child labor and sweat shops and the 6½ day work week. It began when a group of consumers organized together to eliminate these practices and to ensure that the goods they bought were produced and marketed under fair working conditions. It was the league that introduced the idea of minimum wage legislation into the United States.

Over the years, the league has also become involved in the fight for fair consumer practices, at the same time that we continue our efforts to improve labor standards. "No man is an island unto himself," is a truth that becomes more imperative as our Nation becomes more crowded and complex. The harm forced upon one group of us finally becomes a problem for all of us, as we pay the cost, both human and financial, of relief programs, of ill health, of pollution, of crime and delinquency, of the disruption of the valued pattern of our American life.

Consumers do not want to buy their goods at the expense of the environment, or of the worker, or of the producer. We are concerned about the quality of life that will make our country healthy. A product needs not only a fair price tag. It ought to be of decent quality, as well. It has to be safe for the environment and for people. Its production must not exploit the worker.

Yet, on almost every count, the food we consume nowadays fails. Here is a symbol of that failure, a supermarket tomato, hard, immature, grainy, tasteless. For the dubious pleasure of this tomato, I paid 14 cents.

The land-grant college complex is responsible for this tomato. All that the land-grant college complex has done, it says has done for the sake of the consumer, to give us abundant food at low prices. But we reject this claim. After we look at all the costs involved, at the quality of life that is lost, this 14-cent tomato turns out to be no bargain. It is tasteless, probably low in nutrition, steeped in chemicals that may be a real threat to our health, not quite so low in price as claimed, sold by fraudulent advertising; and last of all, it was produced by agribusiness methods that hurt rural America and harm the public interest.

The land-grant college complex, as the Agribusiness Accountability Project Task Force report shows, has spent billions of dollars and thousands of research hours on ways to increase the mechanization of food production and processing. The complex has almost totally failed to research the effects of automated agriculture on the food itself and the people who eat it. Furthermore, this intense mechanization goes hand in glove with the encouragement of agribusiness at the expense of other types of farming. All this ends up harming the public in whose name it has been done.

Mechanized farming of fruits and vegetables, as developed by the land-grant colleges, starts with herbicides to clear the soil of weeds, adds chemical fertilizer to boost its growing power, depends upon pesticides and insecticides to control predators. Genetic structure is altered, as well. In the case of this sad tomato, it had to be bred thick walled and firm enough to withstand the metal fingers of a mechanical harvester. The tomato's genes were also adjusted, to insure that the entire crop would mature together, for a one-time harvesting. The land grant college method of automated animal production relies upon hormones and antibiotics. But when the colleges were perfecting these systems of stepped up production, where was the coordinated research that proved there would be no ill effect upon the food thus produced?

Right now it looks to consumers as if there has indeed been a series of ill effects. One bite will tell you that our fruits and vegetables have lost in taste and texture. Who can put a price tag on the flavor of a sun-ripened peach? Who has decided for consumers that we want a fruit all year long if, as its cost, there is no season when it tastes good?

I noticed, Senator Stevenson, that you have sampled the strawberries. The largest strawberries are a product of the supermarket, and the smaller ones come from a small farm in suburban Virginia. The latter are grown entirely organically.

The farm is owned by a college-educated couple that learned their farming by trial and error. Their income is about $15,000 a year. In the spring, summer, and early fall, they hire high school and college kids, and they teach them every phase of farming. They pay them according to the skills that they pick up. A strawberry picker can earn about $1.80 an hour.

Senator STEVENSON. Let me ask you this. I used to raise strawberries, and I know how each of them is going to taste. These [referring to small strawberries] look a little like the ones I used to raise. But the consumer in the grocery store, given a choice of the two, assuming the same price, would probably select this one [indicating large strawberry].

Mrs. SHABECOFF. Yes, they would. I feel that this has happened over the years. There has been advertising to tell us that the larger the strawberry, the better. You know, bigger is better in America, and new is better in America.

This all has come gradually with the years, that we buy the things which look bigger and more perfect, and nobody has at the same time told the consumer that the larger one may taste worse, may have less vitamins, and indeed in the case of these strawberries, the small ones even end up costing less, which is very unusual since they were produced entirely by a small farm.

I think that the consumer has not been educated by any of us.

Senator STEVENSON. Are you suggesting that consumer education ought to be a responsibility of the land grant college complex?

Mrs. SHABECOFF. Yes; I think the responsibility for educating the consumer rests in a number of places, and one of them will be in organizations such as mine, and one would be in the land grant colleges.

I was thinking that our Government researches and develops vaccines, for example, to see that the people of America have good medicine; then it educates the people of America to see that they take these vaccines.

Why should the Government not take as much of an interest in American nutrition as it does in American health? Why should it not be the place of American agriculture to see that the fruit is healthy, and then to encourage the use of healthy fruit and foods by the American consumer?

Senator STEVENSON. Does the little farmer producing the smaller yet tastier strawberry have difficulty in marketing those strawberries in competition with the producer of large strawberries, because of consumer taste?

Mrs. SHABECOFF. From what I know from this particular farm, they are inundated with customers.

Senator STEVENSON. How does that small farmer reach those customers?

Mrs. SHABECOFF. He has a stand by the side of a road. It looks nice and old fashioned, and people stop by in droves. He also sells through some supermarkets and health food stores.

Senator STEVENSON. He sells direct to supermarkets?

Mrs. SHABECOFF. Yes; they come and pick it up. I do not see why this could not be done on a larger scale. I do not see why this could not be done by small farms around the outskirts of our cities.

Senator STEVENSON. They once were.

Mrs. SHABECOFF. They once were, but they have been encouraged out of business.

Senator STEVENSON. The farmer's market, long familiar to urban America, has virtually disappeared; and, roadside stands have virtually disappeared.

Mrs. SHABECOFF. Yes; but wherever there is a roadside stand you will find it is doing more business than it can handle. They are sold out by 3 o'clock.

Senator STEVENSON. I do not understand why that is. If there is such a hunger on the part of the consumer for the fresh, tasty, and nutritious small strawberry, if the consumer is as eager as you suggest, why have those stands disappeared?

Mrs. SHABECOFF. I think that a lot of farmers have not been able to use their own imagination and make their farms efficient. Here is one way the land grant college might step in. If the small farmers cannot make a go of it, why cannot the land grant colleges develop techniques to help them to produce and market their produce?

Senator STEVENSON. Do you know if any such attempts have been undertaken in the land grant college complex?

Mrs. SHABECOFF. I do not. I know of no attempts to help the small farmer. I may be wrong. I hope Secretary Butz will tell us he is doing all he can to help the small farmer.

Jim Hightower mentioned that tomatoes are sprayed with ethylene gas to make them ripen artificially, and I want to mention in one study conducted by a consumer group, of tomatoes artificially ripened by the land grant research process of spraying them with ethylene gas, the result was "less vitamin A and C and inferior taste, color and firmness." Michigan State University is experimenting with a chemical, Ethrel, that causes cherries to drop off trees more easily for mechanical harvesting. Where is the research on nutritional effect that should accompany this?

Survey after survey indicates that although our gross national product may be healthy, our diets are miserable and steadily getting worse. The Department of Agriculture's 1965 survey of the dietary level of American households demonstrated that half of us are deficient in one or more nutrients. In 1955, that figure was only 40 percent. And the proportion of poor diets (less than ⅔ of the recommended allowance of one or more nutrients) jumped from 15 percent in 1955 to 20 percent in 1965.

The fall 1969 issue of Journal of Nutrition Education, in its review of all diet studies made from 1950 to 1968, pointed out that every study showed a decline in American nutrition. For the poor, there is hardcore malnutrition, as shown by the current 10-State study undertaken for HEW by NIH, under the supervision of Dr. Arnold Schaefer, chief of the Public Health Service nutrition program. It is the poor, of course, whether in the cities or farm fields, who suffer most from the ills of the land grant complex practices.

Did you know that by now somewhere between 80–90 percent of all our beef is grown with a regular diet of antibiotics and hormones? That in the 10 years since Rachel Carson published her book, Silent Spring, the use of pesticides has doubled? What of the dangers to human health that are involved?

When Iowa State University was developing the hormone, Diethylstilbestrol, DES, why didn't they find out that, along with its capacity to increase cattle weight gain, DES has the probable capacity to cause cancer in humans? The Washington Post, only a few days ago, reported that illegal residues of DES are continuing to appear in cattle livers at rates far above last year's level, according to the Department of Agriculture.

The way that the land grant colleges have developed mechanized food production probably involves other health hazards. It has been suggested that some of the chemicals they use can produce changes in human chromosomes and thus birth defects. If that sounds far fetched, then where is the proof to the contrary? Already doctors are finding that the resistance bacteria develop to the antibiotics in animal feed makes these bacteria resistant to the drugs used to treat human diseases. Heart disease and overweight are common American ailments, with overprocessed foods laden with sugar the likely villain. Perhaps tomorrow someone will add to the list with the discovery of yet another sickness caused by the accretion and interaction of these chemical pollutants.

We used to assume that the Government was watching and guarding the public interest. Time and again, we are disabused of our trust. Yet how can we consumers detect residues of hormones, antibiotics, pesticides, and nitrites when we open a package of ham?

We have been urged to accept the risks involved for the sake of the benefits, which are a wide variety of foods available at low prices. We take issue with the claim that Americans only spend 15.6 percent of their disposable income on food. That is an average figure, which mixes millionaires with paupers.

In truth, the 15.6 percent figure pertains only to "a comparatively small number of families with incomes somewhat above $20,000, but would not be representative of persons with lower or higher incomes," according to the Economics Division of the Congressional Research Service. Using the Bureau of Labor Statistics family budgets, we see that families earning about $6,300 a year would spend about 30.5 percent of their disposable income on food; families with a $9,000 income spend 27.2 percent and an income of $12,700 means approximately 24.5 percent for food.

As for the dazzling variety of foods, many of them are junk, like potato chips and sugarcoated breakfast cereals. The land grant college research, as has been shown in the report, "Hard Times, Hard Tomatoes," is focused heavily on the needs of processors. Thus, as you go up and down the aisles of a supermarket, out of perhaps 8,000 items, you see that about 7,500 are in some way processed. Many of these processed products are silly novelties, like the blend of apple and grapefruit juice that Virginia Polytechnic Institute has spent eight studies on. We can make our own blend of apple and grapefruit juice at home.

We strongly feel that the research in production and processing conducted at the land-grant college complex has not been undertaken for the sake of the consumer but, instead, for the sake of agribusiness. All those chemicals we have been talking about either eliminate labor, speed up production, or increase the duration of the food product's transport and shelf life. High profits accrue to the producer, middleman, and retailer. Consumers are left holding a hard tomato.

Iowa State University is conducting studies to see if bacon packaged with carbon dioxide instead of air stays a bright color longer. Such a study should be undertaken by the processor, not by tax-funded public colleges. Why isn't Iowa State looking into the nutritional value of the bacon, or the safety of using carbon dioxide in place of air?

Whatever product research and agribusiness come up with can be fobbed off on the public through advertising. Once satisfied to eat brown sausages, we were brainwashed into expecting red hotdogs by producers who found that nitrite, which results in the rosy color, makes hotdogs last longer. Nitrite, it has recently been discovered, may produce cancer.

The consumer pays for the research, pays for the product, then pays by consuming a food which is either junk or dangerous.

Then I would like to say that we are very strictly opposed to the agribusiness encouragement.

The land-grant college encouragement of the growth of agribusiness runs directly counter to the consumer's interest. First of all, agribusiness entails gigantic systems which require the ever-increasing reliance on intense mechanization with its arsenal of chemicals that deteriorate and endanger our food.

Secondly, consumers are always opposed to the takeover of any market by a powerful few. The few can manipulate the quality, supply, type, and price of the product. Look at what happened in the breakfast cereal market, in the automobile market. Our food could become as dangerous as our cars. Then, through the extravagant use of advertising, the powerful few can make the public eat whatever is offered for whatever price.

A monopoly in food is much more serious than a monopoly in automobiles, because food is one of the essential human needs. Suppose agribusiness takes over. Then, because bigness is not any guarantee of efficiency and success—as witness Lockheed—suppose Tenneco gets into trouble with its oil supplies. Then there is a good chance that Tenneco might try to make up its losses by raising the price of its food products.

Secretary of Agriculture Earl Butz says giantism is "inevitable" and represents "progress." Consumers absolutely reject and deny this. The land-grant colleges, by concentrating on assisting agribusiness at the expense of other farm patterns, have brought about this sad state of affairs. We ask for redress, immediately. We ask for a different kind of research.

As consumers, we vehemently protest the costs to society of the land-grant college efforts. Every year about a million people leave the farms and rural America. They crowd into our cities. The crowding, in turn, promotes crime, poor housing, bad schools. Who pays? The consumer. The farmers have not city trades, can't find jobs. Who pays for their welfare? The consumer. Whatever disruption of the Nation's economy is caused by this agricultural revolution ends up a burden to the consumer.

Furthermore, we protest the unbearable paradox that mechanization is recommended to avoid using labor, yet one of our Nation's gravest problems is unemployment. Obviously there are people to work the farms. The same kind of time, money, and talent that went into making bigger and better machines must be applied to ways of using manpower wisely and efficiently.

I would also like to add that current land-grant complex methods are ruining our land and water.

Those are consumers' tax dollars being used for research to make agribusiness efficient. The efficiency is not passed on to the consumer. It goes straight into corporate profits. The Agricultural Research Service of the Department of Agriculture devotes 3 percent of its research to nutrition and consumer use. Yet there is an urgent need for answers to many problems.

"We don't have sufficient resources to be able to move ahead in a number of consumer areas," says Mrs. Esther Peterson, consumer advisor to Giant Food Stores. Why didn't the land-grant college complex assume the leadership in developing programs of open dating? Why doesn't the complex investigate the nutritional values of foods, and how the foods are affected by chemicals and processing? Why don't they see how convenience foods measure in terms of relative nutritional value? Here is a place where they could serve both supermarkets and consumers.

On the production end, too, there are so many ways in which the public interest could be served, rather than agribusiness interest. The complex could put their expertise to work on making the smaller and medium-sized farms viable. On the use of production methods that do not pollute people or the environment. The potential technology is there in the land-grant college complex. It just needs to be turned to a better use.

Here is a disgusting example of all the problems we face in automated agriculture—poultry production. (The facts are taken from a book by Harrison Wellford, "Sowing the Wind," soon to be published by Grossman, which summarizes a Nader task force investigation of meat, pesticides, and the public interest.)

Chicken feed contains antibiotics to prevent disease that might be produced by crowding and stress. It also contains tranquillizers to prevent the upset chickens from eating each other. The chickens are also sprayed with pesticides. Other drugs, including arsenic and nitrofurans, are fed to them to increase their rate of weight gain. Before distribution, they are bathed in tetracycline or sorbic acid to extend their shelf life. They are lastly colored with a yellow additive to give their flesh an appetizing tint.

Chicken production has jumped from 310 million chickens in 1947 to 3 billion in 1970. And the price has actually dropped from 60c a pound in 1950 to 42c in 1970. The chicken growers, who have nowhere to sell but to huge vertically integrated corporations, often have incomes of minus cents per hour, and live off the depreciation of their farm equipment.

We do not want our chickens produced in this way at this cost.

I think you can produce chickens sufficiently in some other way without harming the grower, without harming the eater.

The National Agricultural Research Advisory Committee represents the highest citizen input through research in the lang-grant colleges. In the book, Hard Times, Hard Tomatoes, look at appendix G, the listing of the committee members. Where are the consumers? Down at the local level, as well, there are no consumer representatives, to my knowledge.

How can the land-grant college complex say it is doing everything in the name of the consumer, when there isn't one consumer on any advisory committee in the country? Here is the place to begin, to add a new balance to the land-grant college complex which will, we hope, bring the colleges back into the service of the people.

The National Consumers League thanks you for this opportunity to speak on behalf of the consumer.

Senator STEVENSON. You say any advisory committee in the country.

Mrs. SHABECOFF. I mean any land-grant college advisory committee. As I understand it, at each State level there are advisory committees.

Senator STEVENSON. Which are what?

Mrs. SHABECOFF. There are no consumers on advisory committees at the State level.

Senator STEVENSON. How are those advisory committees composed?

Mrs. SHABECOFF. They are composed of chemical companies and mechanical manufacturing companies, and I understand also from the State college professors.

Senator STEVENSON. Are you familiar with the composition of the National Agricultural Research Advisory Committee?

Mrs. SHABECOFF. Only through appendix G of "Hard Tomatoes, Hard Times." That book makes very interesting reading.

Senator STEVENSON. We will place that material in the record.

(The material referred to follows:)

APPENDIX G:

BIOGRAPHICAL SKETCHES

Members of

NATIONAL AGRICULTURAL RESEARCH ADVISORY COMMITTEE

DR. ORVILLE G. BENTLEY, DEAN, COLLEGE OF AGRICULTURE, UNIVERSITY OF ILLINOIS, URBANA, ILLINOIS

Dr. Bentley is Dean of the College of Agriculture at the University of Illinois. He has a B.S. degree from the South Dakota State University at Brooking, South Dakota; M.S. and Ph.D. in biochemistry from the University of Wisconsin. He previously was Dean of Agriculture and Director of the Experiment Station at South Dakota State College. Dr. Bentley is a member of the National Research Council, American Chemical Society, Society of Animal Science and the Nutrition Institute. He received the American Feed Manufacturers Association award in 1958. He served as a major in the Chemical Warfare Service from 1942 to 1946.

JOHN GAMMON, JR., ROUTE 1, BOX 252, MARION, ARKANSAS

Mr. Gammon operates a 1,000-acre cotton, rice, swine, and fish farm. He resigned from the Resettlement Administration to return home and take over the 200-acre family farm devoted mostly to cotton in 1936. Mr. Gammon is a graduate of Arkansas A.M. and N. College. He is president of the Negro division of the Arkansas Farm Bureau Federation and manager of the cooperative cotton gin in his county.

DR. CHARLES E. GEISE, DIRECTOR OF AGRICULTURAL RESEARCH, DEL MONTE CORPORATION, SAN LEANDRO, CALIFORNIA

Dr. Geise is Director of Agricultural Research for the Del Monte Corporation, processor of fruits and vegetables. He received a B.S. degree from Purdue University and an M.S. and Ph.D. in horticulture from Iowa State College. He previously was a sweet corn breeder, superintendent of the agricultural research and seed department, and manager of the research division of the California Packing Corporation. Dr. Geise is a member of the Society of Agronomy and the Society of Horticultural Science.

DR. PAUL B. PEARSON, PRESIDENT AND SCIENTIFIC DIRECTOR, THE NUTRITION FOUNDATION, INC., NEW YORK, NEW YORK

Dr. Pearson is a graduate of Brigham Young University, Montana State College and the University of Wisconsin. He holds a Ph.D. degree in biochemical nutrition from the latter Institution. He was formerly employed as a Research Associate, University of California; Dean of the Graduate School and Head of the Department of Biochemistry and Nutrition, Texas Agricultural and Mechanical College; Chief, Biological Branch, United States Atomic Energy Commission; Professor, Johns Hopkins University and science and engineering program of the Ford Foundation. He has served on several committees of the National Research Council attending many international meetings as U.S. delegate. He is a member of many scientific organizations including the American Association for Advancement of Science, American Chemical Society, American Institute of Nutrition, London Biochemical Society, and American Society of Biological Chemists.

CLARENCE W. RICHEN, VICE PRESIDENT, NORTHWEST TIMBER OPERATIONS, CROWN ZELLERBACH CORPORATION, PORTLAND, OREGON

Mr. Richen was first employed by Crown Zellerbach in 1939 as forestry consultant, while he was on the faculty of the Oregon State University School of Forestry of which he is a graduate. In 1942 he joined the Company's Portland Timber Department, becoming Chief Forester in 1946. He is on the Board of Directors of the Industrial Forestry Association, a trustee and executive committee member of the Western Forestry Association; a member of the Pacific Northwest Forest Experiment Station Research Advisory Committee; member of the Committee on Forestry Research of the Agricultural Board of the National Academy of Sciences, and of the Cooperative Forestry Research Advisory Committee (established under the McIntire-Stennis Act of 1962).

CECIL H. ROBINSON, ROUTE 1, DELAWARE, OHIO

Mr. Robinson produces, processes, and markets hybrid seed corn, certified wheat, oats, and soybean seed. He also produces about 1000 hogs annually, mainly Yorkshires. He is past president, Ohio Seed Improvement Association; has served on Grain Advisory Committee, Farm Bureau; was Chairman of County Agricultural Extension Committee; and member of the State Committee. In 1962 he served on the People-to-People Mission in Eastern Europe. Mr. Robinson is a graduate of Ohio State University where he majored in agricultural engineering and rural economics.

FRANK SCHUSTER, RT. 1, BOX 82, SAN JUAN, TEXAS

Mr. Schuster operates a 1400-acre farm in the lower Rio Grande Valley of Texas, of which about 50 percent is devoted to vegetable production. He specializes in spinach, turnip, mustard, kale, and collard greens and broccoli for freezing and canning, with smaller amounts of the same for the fresh market. He also grows about 150 acres of onions annually, with smaller acreages of tomatoes, cukes and peppers--all acreage under irrigation. Mr. Schuster is a strong supporter of research, and participates in the research programs of the Texas Agricultural Experiment Station by furnishing land and other production facilities and services. He is chairman of the Vegetable Subcommittee of the Agricultural Advisory Committee of the Texas A&M University; past president of Hidalgo County Farm Bureau; chairman of the Rio Grande Valley Farm Bureau's Fruit and Vegetable Committee; chairman of the Agricultural Committee of the Rio Grande Valley Chamber of Commerce; has been active in supporting the several marketing agreement and order programs now operating in the Lower Valley; and is a member of the Southern Texas Onion Committee. Mr. Schuster served in the U.S. Armed Forces 1943-1946. He was a member of the Horticultural Crops Research Advisory Committee, USDA.

ELTON R. SMITH, PRESIDENT, MICHIGAN FARM BUREAU, LANSING, MICHIGAN

Mr. Smith farms a 388 acre dairy farm in Kent County, Michigan. He is a prominent Guernsey breeder, president of the Michigan Guernsey Breeders Association, and in 1963 was named Michigan Dairyman of the Year. He received the Michigan State Distinguished Service to Agriculture Award, has been active in a variety of livestock organizations and for ten years has been on his county Soil Conservation District Board. He has been very interested in research on pesticide problems and was helpful in establishing a pesticides research laboratory in Michigan State University. Mr. Smith has been president of Michigan's Farm Bureau since 1964, president of the Michigan Farm Bureau Services, and is a director of the American Farm Bureau Federation.

J. W. STILES, VICE PRESIDENT, DEVELOPMENT, AGWAY, SYRACUSE, NEW YORK

Mr. Stiles is Vice President, Development for AGWAY, a cooperative organization serving the Eastern United States. He served for ten years as Director of Research for the Cooperative G.L.F. Exchange. Mr. Stiles is a graduate of Cornell University, a member of the American Society of Agricultural Engineers, American Grassland Council, and the Agricultural Research Institute.

DR. BETTY SULLIVAN, 4825 QUEEN AVENUE, SOUTH, MINNEAPOLIS, MINNESOTA

Dr. Sullivan is a graduate of the University of Minnesota and the University of Paris (France) where she majored in biochemistry. She was employed in 1924 in milling research by Russel Miller and served as Director of Research and Vice President of the Peavey Company Flour Mills. Dr. Sullivan has been President of the American Association of Cereal Chemists, Chairman of the Minnesota Section of the American Chemical Society and is a member of the Council of the American Chemical Society. She is a member of Societie Biologique de France, New York Academy of Science, American Association for the Advancement of Science, and the American Society of Bakery Engineers. She has served as Chairman of the Technical Advisory Committee and is a member of the Flour Standards Committee of the Millers' National Federation.

PEDRO F. TIRADO, GPO BOX 2075, SAN JUAN, PUERTO RICO

Mr. Tirado is Agricultural Advisor (Agrarian Reform) to the Agriculture and Rural Development Office (ARDO) of the U.S. Agency for International Development. He previously served in a similar capacity with the U.S. AID Missions to Brazil, Costa Rico, Bolivia, and Guatemala. He also has been employed as Regional Director of Agriculture, Department of Agriculture of Puerto Rico at Ponce, P.R.; as a soil scientist and agronomist with the International Cooperation Administration, U.S. Department of State; and as acting chief USOM Agricultural Division in Honduras. He was a soil scientist with the Institute of Interamerican Affairs in Asuncion, Paraguay, and a soil conservationist (research) at the Puerto Rico Agricultural Experiment Station at Rio Piedras and Mayaguez.

Mr. Tirado has a B.S. degree in agronomy from the University of Puerto Rico and an M.S. in agronomy from the Texas A&M University. He also attended the USDA Graduate School and the State Department Foreign Service Institute.

Senator **Stevenson**. The consumer is concerned with cost of chickens as well as quality. In this case the cost of chicken has come down. One of the current claims of the land-grant college complex is that it does make food production much more efficient, and it does make food cost less.

I am sure you are concerned about cost as well as quality. Is there inconsistency in your position on these issues?

Mrs. **Shabecoff**. I hope there is a consistency that if the land-grant college complex were to put its efforts into making smaller farms and other means of production, and processing efficient, then in the long run we consumers—that means all of us—could have cheaper food which was healthier and more delicious.

Food production methods nowadays are efficient, but at a cost which we find in the long run is very high. Although you think perhaps our food is cheap, how about our dental bills, how about our medical bills?

Our diets are so terrible we have to take vitamin pills to boost them up. How about the cost of dietary supplements? How many people have lost days of work because they were ill? Perhaps that comes from rotten food.

In the long run our food has to be improved as much as it can be improved. It can be made efficient if only we give impetus to new methods of growing and processing.

Senator **Stevenson**. You are also concerned with the dangers of monopoly within the food chain. Isn't there a danger at least at the moment of monopoly at the first link in the chain? Or are you concerned about a monopolization beyond the farmer, say at the distribution, the processing, retailing stages, and if so, would you elaborate on those concerns?

To the extent those are real concerns, they are concerns about price as well as quality.

Mrs. **Shabecoff**. The entire tradition of America has been so far the individual. We are opposed to monopoly, are we not, traditionally? Historically, we have the Sherman antitrust law, and so on. I think that we are harmed by monopolies at every level, whether it is vertically integrated corporation or the chainstores which can set prices.

In every way consumers wish to see this chain broken down into smaller units. If city planners had some say in what was going on, if there were a great meeting of minds between the land-grant complex and the city planners and the environmentalists, all of this could be worked out if there were a motivation for doing so.

We want to see smaller farms, we want to see smaller markets, and smaller chainstores. Perhaps the difficulty that we are facing now, where the President has had to impose price controls, is a direct result of the kinds of monopolistic production that we are seeing, not only in food but also in the automobile industry and in so many other of our consumer items.

Senator STEVENSON. Do you have more specific suggestions about the kind of research that land-grant colleges could conduct to support consumer interest?

Mrs. SHABECOFF. Yes. It could be in two phases. One is the production end, with the smaller farms using methods of raising food which are less harmful. I believe you are going to have somebody talk to you on how you can have large farms and still raise foods efficiently. That will help the consumer.

Then on the food end of it, we would very much like to find out what happens to food which is processed and what happens to convenience foods especially.

There are many people who feel that convenience foods are losing in nutrition and taste, and we would very much like the land-grant colleges to do some research along that line.

We would like the land-grant colleges also to go into the whole field of nutritional labeling. I have mentioned the open dating. This all goes together. We need information about the food, how long it lasts, what its value is before and after chemicals are added.

I believe it would be very helpful to have strict consumer representatives who really go into these meetings with the consumer in mind. We would like to see them placed on the committees at all levels, from the national level down to the State level, and then they could come up with very specific suggestions that will both meet the State level needs and would meet, we hope, the national needs.

Senator STEVENSON. I think from what you say some attention ought also be given to the marketing methods. I heard the other day of a project in Chicago where individuals, not the social agencies, in the inner city were undertaking to arrange the transportation of food directly from farms into the inner city to churches and other agencies.

They were selling lower cost but higher quality fresher foods than were available in the corner grocery store. I was told in this case that originally they encountered consumer resistance, but once the word got around in the neighborhoods that you could go to a church and buy fresh vegetables at lower cost, it began to pick up.

Originally there was a psychological block to any deviation from the norm, which means going to a supermarket and getting that fancy packaged hard tomato.

It also seems as if it had something to do with status, to buy that supermarket tomato, not the tomato in the church or even the tomato from the ma and pa grocery store.

I suppose that this might mean development of new marketing procedures.

Mrs. SHABECOFF. That is right. Last week some representatives of the National Association of Food Chains told me that they do not buy from local markets. For example, if there were a market near two or three of their stores that could offer those stores a full complement of fruits and vegetables in season, those stores would not buy those fruits and vegetables because the supermarket chains find it inefficient to do it on a piecemeal basis.

I think we need new methods to teach the food chains that they can do these things on a piecemeal basis, on a local basis, and then, as you say, I think it is also a question of reaching the consumer.

There have been so maney national brands advertised. This especially affects the people in the inner city who think the American way of life is attained by buying national brands, and they have to learn this kind of advertising may sometimes run counter to their best interests.

I think it is our place to show them through practice and through words that you can get good produce in a number of different places, and that sometimes nutrition suffers by buying these big brand items and the pocketbook usually suffers too.

Senator STEVENSON. A number of the points that you made parallel those in "Hard Tomatoes, Hard Times." Do you find research organizations, other organizations, making similar findings to those contained in that report? Are there other groups, other individuals concerned?

Mrs. SHABECOFF. I know of just two other groups offhand who are interested in researching the pesticides and insecticides. One is the task force under Harrison Wellford which is associated with the Center for Responsive Law.

The Center for Science and Public Interest is getting into a bit of research on food and how it is sold.

Then you will find all these people whom we used to call food faddists who are interested in the nutritional end of the food processing and production. That is it.

I do not see it coming out of the Department of Agriculture. In fact, I was at the Beltsville Agricultural Station, and one of the people on the tour asked, "How can I farm organically?" The man in charge of the tour was very angry and said, "We don't have that kind of information. It is not efficient."

Senator STEVENSON. Are there other institutions outside of the USDA and land grant college complex with the resources with which to do the research and publication of the kind that you are describing?

Mrs. SHABECOFF. I think it is a big order of business. I do noot know if it can be done on a national scale. That is why I would urge that the Department of Agriculture reconsider its direction and include the kind of research that we are urging.

There are small organizations such as Mr. Rodale's, and many farmers around the country are doing their own type of agriculture and therefore pragmatic research, but nothing that could be used on a nationwide scale so far as I know.

However, we do have nationwide consumer organizations, and they can be brought in for this kind of education program that we need.

Senator STEVENSON. You mentioned the consumer interest in road side stands. Do you have other evidence of consumer rebellion in the country? Are consumers in substantial number, for example, patronizing the health food stores?

Mrs. SHABECOFF. I believe that these health food stores have just recently been listed on the stock exchange. That is an indication that they have become big business.

Why are people buying that food? Why are there so many stores opening throughout the country? It is because people are becoming concerned.

For the first time, it is mentioned that Adele Davis is not the only nut around. There are stories in the newspapers all the time now about the chemicals in our food. People are beginning to realize that they are being harmed by the way food is being made these days.

For example, the DES controversy has made a big splash in the newspapers, and therefore people have become aware of it. I am sure, Senator, in your office you receive many letters from your home State saying that these people wish the DES would be removed entirely from their food supply.

As soon as people become aware that there are other similar dangers in their food supply, they will write letters about that, too. There is a growing awareness and a growing rebellion among consumers.

Senator STEVENSON. Some farmers from California told us not too long ago that some of their fruit—I think they mentioned specifically plums—was blemished, which had absolutely no effect on the quality or nutritional characteristics of the fruit.

Because of the blemish, they could only market the fruit locally. They said that if such fruit could be marketed along with the undamaged fruit, the consumer would have more fruit available at lower cost and greater variety, and in this case with as good quality.

Are you familiar with the market and the difficulty faced by the small farmers? Why in that case could the farmers in California not sell the plums with the little blemish on the skin as well as the other plums? Is that consumer resistance?

Mrs. SHABECOFF. Yes; I am sure that was consumer resistance.

Senator STEVENSON. We were told that they could sell locally at a low price. I think they were suggesting an education program of national acceptance.

Mrs. SHABECOFF. It is a vicious cycle. The national chains will put out on their shelves only the most round tomatoes, the rosy red apples, the waxed cucumbers, and so on; so, when you put next to it a plum which has an unsightly blemish, perhaps the consumer after many years has seen only these perfect-looking creatures, and so they draw back at buying a fruit which looks unappetizing. But if the consumer were to realize that this fruit tastes better, perhaps costs less money, in the long run then this resistance will be broken down.

The resistance has been built up over the years. It will take a while to break it down. We all have to work on that.

I think, for example, when flame resistant fabrics were put out, such as baby pajamas, there was consumer resistance. But when you tell the consumer that her baby is safer inside flame resistant pajamas, then she will buy them. You have to educate the consumer over the years. I think that the national chains have been in collusion with each other and with the advertisers, and they have built up a consumer market to reflect their greatest profit.

I think now the time has come to look at it from the consumer end, and to rearrange this kind of system.

Senator STEVENSON. I suppose some thought should be given towards trying to direct a consumer agency, if and when it is created within the Government, within the USDA, for example, to try to bring about new marketing systems and also greater consumer awareness.

Mrs. SHABECOFF. For so many years we, all of us, thought that all of us were doing very beautifully with our American system, and it was not until people like Rachel Carson and Ralph Nader came along that we realized something was basically wrong. That is why we see the consumer movement growing now. It is the reaction against a kind of false peace of mind or false sense of security we used to have.

I hope there be not only a consumer protection agency and perhaps a safety agency but that at every level and in every department of the Government they will be thinking of the general public interest, because in the long run this is the American interest.

Senator STEVENSON. Those hard tomatoes are of great interest to Senators. We have a Senator who testified before us that not too long ago in our campaigns you could have a tomato thrown at you without fear of suffering a serious wound. [Laughter.]

Mrs. SHABECOFF. In all seriousness, Senator, there is a variety of tomato development that is called the bouncer, which is so hard that it bounces.

Senator STEVENSON. Thank you very much, and I hope you will stay around and let me know where that roadside stand is.

Mrs. SHABECOFF. Thank you.

(The prepared statement of Mrs. Shabecoff follows:)

TESTIMONY OF THE NATIONAL CONSUMERS LEAGUE BEFORE THE SUBCOMMITTEE ON MIGRATORY LABOR OF THE SENATE LABOR AND PUBLIC WELFARE COMMITTEE ON THE EFFECTS OF THE LAND GRANT COLLEGE COMPLEX ON CONSUMERS

June 19, 1972

My name is Alice Shabecoff. I am Executive Director of the National Consumers League. The League is the oldest consumer organization in the United States. It began back in 1899, in the era of child labor and sweat shops and the 6½ day work week. It began when a group of consumers organized together to eliminate these practices and to ensure that the goods they bought were produced and marketed under fair working conditions. It was the League that introduced the idea of minimum wage legislation into the United States.

Over the years, the League has also become involved in the fight for fair consumer practices, at the same time that we continue our efforts to improve labor standards. "No man is an island unto himself," is a truth that becomes more imperative as our nation becomes more crowded and complex. The harm forced upon one group of us finally becomes a problem for all of us, as we pay the cost, both human and financial, of relief programs, of ill health, of pollution, of crime and delinquency, of the disruption of the valued pattern of our American life.

Consumers do not want to buy their goods at the expense of the environment, or of the worker, or of the producer. We are concerned about the quality of life that will make our country healthy. A product needs not only a fair price tag. It ought to be of decent quality, as well. It has to be safe for the environment and for people. Its production must not exploit the worker.

Yet, on almost every count, the food we consume nowadays fails. Here is a symbol of that failure, a supermarket tomato, hard, immature, grainy, tasteless. For the dubious pleasure of this tomato, I paid 14¢.

The land grant college complex is responsible for this tomato. All that the land grant college complex has done, it says it has done for the sake of the consumer, to give us abundant food at low prices. But we reject this claim. After we look at all the costs involved, at the quality of life that is lost, this 14¢ tomato turns out to be no bargain. It is tasteless, probably low in nutrition, steeped in chemicals that may be a real threat to our health, not quite so low in price as claimed, sold by fraudulent advertising; and last of all, it was produced by agribusiness methods that hurt rural America and harm the public interest.

The land grant college complex, as the Agribusiness Accountability Project Task Force report shows, has spent billions of dollars and thousands of research hours on ways to increase the mechanization of food production and processing. The complex has almost totally failed to research the effects of automated agriculture on the food itself and the people who eat it. Furthermore, this intense mechanization goes hand in glove with the encouragement of agribusiness at the expense of other types of farming. All this ends up harming the public in whose name it has been done.

Mechanized farming of fruits and vegetables, as developed by the land grant colleges, starts with herbicides to clear the soil of weeds, adds chemical fertilizer to boost its growing power, depends upon pesticides and insecticides to control predators. Genetic structure is altered, as well. In the case of this sad tomato, it had to be bred thick walled and firm enough to withstand the metal fingers of a mechanical harvester. The tomato's genes were also adjusted, to insure that the entire crop would mature together, for a one-time harvesting. The land grant college method of automated animal production relies upon hormones and antibiotics. But when the colleges were perfecting these systems of stepped-up production, where was the coordinated research that proved there would be no ill effect upon the food thus produced?

Right now it looks to consumers as if there has indeed been a series of ill effects. One bite will tell you that our fruits and vegetables have lost in taste and texture. Who can put a price tag on the flavor of a sun-ripened peach? Who has decided for consumers that we want a fruit all year long if, as its cost, there is no season when it tastes good?

Nutrition has often fallen by the wayside. In one study conducted by a consumer group, of tomatoes artificially ripened by the land grant research process of spraying them with ethylene gas, the result was "less vitamin A and C and inferior taste, color and firmness." Michigan State University is experimenting with a chemical, Ethrel, that causes cherries to drop off trees more easily for mechanical harvesting. Where is the research on nutritional effect that should accompany this?

Survey after survey indicates that although our Gross National Product may be healthy, our diets are miserable and steadily getting worse. The Department of Agriculture's 1965 survey of the dietary level of American households demonstrated that half of us are deficient in one or more nutrients. In 1955, that figure was only 40%.

And the proportion of poor diets (less than 2/3 of the recommended allowance of one or more nutrients) jumped from 15% in 1955 to 20% in 1965. The Fall 1969 issue of *Journal of Nutrition Education*, in its review of all diet studies made from 1950 to 1968, pointed out that every study showed a decline in American nutrition. For the poor, there is hardcore malnutrition, as shown by the current 10-state study undertaken for H.E.W. by N.I.H., under the supervision of Dr. Arnold Schaefer, chief of the public health service nutrition program. It is the poor, of course, whether in the cities or farm fields, who suffer most from the ills of the land grant complex practices.

Did you know that by now somewhere between 80 90% of all our beef is grown with a regular diet of antibiotics and hormones? That in the 10 years since Rachel Carson published her book, *Silent Spring*, the use of pesticides has doubled? What of the dangers to human health that are involved? When Iowa State University was developing the hormone, Diethylstilbestrol, DES, why didn't they find out that, along with its capacity to increase cattle weight gain, DES has the probable capacity to cause cancer in humans? The Washington Post, only a few days ago, reported that illegal residues of DES are continuing to appear in cattle livers at rates far above last year's level, according to the Department of Agriculture.

The way that the land grant colleges have developed mechanized food production probably involves other health hazards. . It has been suggested that some of the chemicals they use can produce changes in human chromosomes and thus birth defects. If that sounds far fetched, then where is the proof to the contrary? Already doctors are finding that the resistance bacteria develop to the antibiotics in animal feed makes these bacteria resistant to the drugs used to treat human diseases. Heart disease and overweight are common American ailments, with overprocessed foods laden with sugar the likely villain. Perhaps tomorrow someone will add to the list with the discovery of yet another sickness caused by the accretion and interaction of these chemical pollutants.

We used to assume that the government was watching and guarding the public interest. Time and again, we are disabused of our trust. Yet how can we consumers detect residues of hormones, antibiotics, pesticides and nitrites when we open a package of ham?

We have been urged to accept the risks involved for the sake of the benefits, which are, a wide variety of foods available at low prices. We take issue with the claim that Americans only spend 15.6% of their disposable income on food. That is an average figure, which mixes millionaires with paupers. In truth, the 15.6% figure pertains only to "a comparatively small number of families with incomes somewhat above $20,000, but would not be representative of persons with lower or higher incomes," according to the Economics Division of the Congressional Research Service. Using the Bureau of Labor Statistics family budgets, we see that families earning about $6,300 a year would spend about 30.5% of their disposable income on food; families with a $9,000 income, spend 27.2%; and an income of $12,700 means approximately 24.5% for food.

As for the dazzling variety of foods, many of them are junk, like potato chips and sugar-coated breakfast cereals. The land grant college research, as has been shown in the report, Hard Times, Hard Tomatoes, is focused heavily on the needs of processors. Thus, as you go up and down the aisles of a supermarket, out of perhaps 8,000 items, you see that about 7,500 are in some way processed. Many of these processed products are silly novelties, like the blend of apple and grapefruit juice that Virginia Polytechnic Institute has spent eight studies on.

We strongly feel that the research in production and processing conducted at the land grant college complex has not been undertaken for the sake of the consumer but, instead, for the sake of agribusiness. All those chemicals we have been talking about either eliminate labor, speed up production, or increase the duration of the food product's transport and shelf life. High profits accrue to the producer, middleman and retailer. Consumers are left holding a hard tomato.

Iowa State University is conducting studies to see if bacon packaged with carbon dioxide instead of air stays a bright color longer. Such a study should be undertaken by the processor, not by tax-funded public colleges. Why isn't Iowa State looking into the nutritional value of the bacon, or the safety of using carbon dioxide in place of air?

Whatever product research and agribusiness come up with, can be fobbed off on the public through advertising. Once satisfied to eat brown sausages, we were brainwashed into expecting red hot dogs by producers who found that nitrite, which results in the rosy color, makes hot dogs last longer. Nitrite, it has recently been discovered, may produce cancer.

The consumer pays for the research, pays for the product, then pays by consuming a food which is either junk or dangerous.

The land grant college encouragement of the growth of agribusiness runs directly counter to the consumer's interest. First of all, agribusiness entails gigantic systems which require the ever increasing reliance on intense mechanization with its arsenal of chemicals that deteriorate and endanger our food.

Secondly, consumers are always opposed to the take-over of any market by a powerful few. The few can manipulate the quality, supply, type and price of the product. Look at what happened in the breakfast cereal market, in the automobile market.Our food could become as dangerous as our cars. Then, through the extravagant use of advertising, the powerful few can make the public eat whatever is offered for whatever price.

A monopoly in food is much more serious than a monopoly in automobiles, because food is one of the essential human needs. Suppose agribusiness takes over. Then, because bigness is not any guarantee of efficiency and success - as witness Lockheed - suppose Tenneco gets into trouble with its oil supplies. Then there is a good chance that Tenneco might try to make up its losses by raising the price of its food products.

Secretary of Agriculture Earl Butz says giantism is "inevitable" and represents "progress". Consumers absolutely reject and deny this. The land grant colleges, by concentrating on assisting agribusiness at the expense of other farm patterns, have brought about this sad state of affairs. We ask for redress, immediately.

As consumers, we vehemently protest the costs to society of the land grant college efforts. Every year about a million people leave the farms and rural America. They crowd into our cities. The crowding, in turn, promotes crime, poor housing, bad schools. Who pays? The consumer. The farmers have no city trades, can't find jobs. Who pays for their welfare? The consumer. Whatever disruption of the nation's economy is caused by this agricultural revolution ends up a burden to the consumer.

Furthermore, we protest the unbearable paradox that mechanization is recommended to avoid using labor, yet one of our nation's gravest problems is unemployment. Obviously there are people to work the farms. The same kind of time, money and talent that went into making bigger and better machines must be applied to ways of using manpower wisely and efficiently.

I would also like to add that current land grant comples methods are ruining our land and water.

Those are consumers' tax dollars being used for research to make agribusiness efficient. The efficiency is not passed on to the consumer. It goes straight into corporate profits. The Agricultural Research Service of the Department of Agriculture devotes 3% of its research to nutrition and consumer use. Yet there is an urgent need for answers to many problems. "We don't have sufficient resources to be able to move ahead in a number of consumer areas," says Mrs. Esther Peterson, consumer advisor to Giant Food Stores. Why didn't the land grant college complex assume the leadership in developing programs of open dating? Why doesn't the complex investigate the nutritional values of foods, and how the foods are affected by chemicals and processing? Why don't they see how convenience foods measure in terms of relative nutritional value? Here is a place where they could serve both supermarkets and consumers.

On the production end, too, there are so many ways in which the public interest could be served, rather than agribusiness interest. The complex could put their expertise to work on making the smaller and medium-sized farms viable. On the use of production methods that do not pollute people or the environment. The potential technology is there in the land grant college complex. It just needs to be turned to a better use.

Here is a disgusting example of all the problems we face in automated agriculture, -- poultry production. (The facts are taken from a book by Harrison Wellford, *Sowing the Wind*, soon to be published by Grossman, which summarizes a Nader task force investigation of meat, pesticides and the public interest.)

Chicken feed contains antibiotics to prevent disease that might be produced by crowding and stress. It also contains tranquillizers to prevent the upset chickens from eating each other. The chickens are also sprayed with pesticides. Other drugs, including arsenic and nitrofurans, are fed to them to increase their rate of weight gain. Before distribution, they are bathed in tetracycline or sorbic acid to extend their shelf life. They are lastly colored with a yellow additive to give their flesh an appetizing tint.

Chicken production has jumped from 310 million chickens in 1947 to 3 billion in 1970. And the price has actually dropped from 60¢ a pound in 1950 to 42¢ in 1970. The chicken growers, who have nowhere to sell but to huge vertically integrated corporations, often have incomes of minus cents per hour, and live off the depreciation of their farm equipment.

We do not want our chickens produced in this way at this cost.

The National Agricultural Research Advisory Committee represents the highest citizen input through research in the land grant colleges. In the book, Hard Times, Hard Tomatoes, look at Appendix G, the listing of the Committee members. Where are the consumers? Down at the local level, as well, there are no consumer representatives, to my knowledge. How can the land grant college complex say it is doing everything in the name of the consumer, when there isn't one consumer on any advisory committee in the country? Here is the place to begin, to add a new balance to the land grant college complex which will, we hope, bring the colleges back into the service of the people.

The National Consumers League thanks you for this opportunity to speak on behalf of the consumer.

Senator STEVENSON. The next witness is Dr. R. D. Morrison, president of Alabama A. & M. University. Dr. Morrison will be accompanied by Peter Schuck of the Center for the Study of Responsive Law, and they will be joined by Congressman Frank E. Evans of Colorado as soon as he arrives.

Dr. Morrison's appearance is very important to us. He recognizes many of the difficulties of the land-grant college complex and in particular the difficulties of the so-called black land-grant colleges.

Mr. Schuck is author of several articles on black land grant colleges, one of which will soon appear in the Saturday Review. He is fully acquainted with many issues which this subcommittee is exploring.

We are grateful to you both for joining us. Why don't you proceed, Dr. Morrison? You have a statement that we will be glad to enter into the record if you would like to summarize it, or just proceed as you prefer.

STATEMENT OF DR. R. D. MORRISON, PRESIDENT OF ALABAMA A. & M. UNIVERSITY; ACCOMPANIED BY PETER SCHUCK, CENTER FOR THE STUDY OF RESPONSIVE LAW, WASHINGTON, D.C., AND HON. FRANK E. EVANS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF COLORADO

Dr. MORRISON. My statement is relatively short, so I will proceed with it.

I am Richard David Morrison, president of Alabama A. & M. University, one of the 16 land-grant institutions which came into being as a result of the second Morrill act, 1890. These institutions were supposed to serve as counterparts to the 1862 land-grant institutions in States that insisted on a separation of races when it came to black Americans.

Up to the present time, most of my life experiences have been in the Southeastern States of the United States. I was born on a farm in Mississippi, and grew up there until finishing high school. My undergraduate work was completed at Tuskegee Institute in Alabama. My master's degree was earned at Cornell University, Ithaca, N.Y., and the Ph. D. degree was earned at Michigan State University. Both universities, I noticed, are known by the researchers of "Hard Tomatoes, Hard Times."

My work experiences for 38 years have been in education—as a high school teacher of vocational agriculture, as a director of agriculture at the college level, and as president of a land-grant college.

Senator STEVENSON. Dr. Morrison, if I could interrupt for a second, I would like to invite Congressman Evans, who has just arrived, to join your panel.

Thank you very much, Congressman, for appearing before the subcommittee today.

Will you continue, Dr. Morrison.

Dr. MORRISON. As I was saying, my previous statements were intended to be a brief documentation of some credentials that may place my subsequent statements in a better position to claim your favorable attention.

I wish to express my thanks to Senator Adlai Stevenson and his committee for inviting me to testify before this committee. These words go deeper than a mere courtesy statement. They are imbedded in an appreciation for having the opportunity as a black man to speak at a Senate hearing on a matter of importance to people, and especially to black people. Too often there is always someone else who thinks he is better qualified to speak for us; therefore, we are not invited to speak on our own behalf.

Most recently, a report, "Hard Tomatoes, Hard Times," seemingly has documented some facts which tend to question the wisdom of certain programs and the expenditure of funds for these programs, especially as they pertain to the land-grant college system. The implications are that the 1862 land grant institutions have strayed too far from the major intent of the land-grant system in the first place. These accusations may prove to be advantageous to all who are concerned. Maybe it is time for interested people to take a good hard look at how the land-grant system is meeting its objectives.

More important is that some action should be taken to correct the agreed upon discrepancies and weaknesses when they are identified. Too often when such reports as "Hard Tomatoes, Hard Times" are fortunate enough to claim public attention, nothing is accomplished after the initial period of excitement is over.

At this point, I should like to discuss briefly one of my main concerns of interest in the whole package of the land grant system—the 1890 black land-grant institutions. These institutions, in the 82 years of their existence, have never been accepted by the land-grant family as bona fide members. Even in "Hard Tomatoes, Hard Times," the implications of a perpetual dichotomy is there when thoughts are in terms of 1862 and 1890 land-grant institutions. My question is why must there be this dichotomy in the minds of people about these institutions? Why can't the 1890 colleges just be good land-grant colleges in the system, respected and supported for their worth to society?

One of the focal points in the report hinges around the neglect of low-income groups, especially farm people, by the 1862 colleges. This is not true with the 1890 institutions. For 82 years, these institutions have devoted part of their meager general operation funds toward programs for poor people. Not until 1972 did these institutions receive any USDA funds for extension or research work. Moreover, the records will show that very little Morrill funds for instructional purposes were allocated to these institutions, and I have an attachment which shows the figures.

It is common knowledge that the 1890 colleges serve a clientele with an average income of less than $5,000 per year. The 50,000 plus students that the 1890 colleges enroll are, for the most part, from low-income families. If this is true, why then has it been so difficult for these colleges to share in funds that are purported to be available for programs designed to help people?

"Hard Tomatoes, Hard Times" has brought out into the open the kind of detailed information that can be helpful in appraising what is taking place in the land-grant system, as well as USDA. Regardless of how the tomatoes may be squeezed, there is a lot of meat in the report to be digested.

The statements in the book about the lack of support through the years for the 1890 land-grant institutions by USDA, through programs such as the Extension Service, CSRS, and other funded programs, are to the point. If there is a shortcoming in the section of the report on black land-grant colleges, it is that not much attention was given to efforts on the part of these colleges to participate in programs designed for low-income groups. These institutions have demonstrated their capability to work with such groups time and time again.

A typical example of what I am talking about can be found in the language of the recent rural development programs. The 1890 institutions were not included in this proposed bill—only the 1862 colleges. Past experience has taught us that 1862 colleges are not interested in sharing any funds with 1890 colleges. Putting it another way, the law of gravity seems to work in the opposite direction when money is in the hands of USDA and/or 1862 institutions. This is to say that funds gravitate upward to those who are "well off," rather than downward to those who are "poor," be this as it may, a person or an institution.

Some credit must be given USDA for causing a slight modification in funding patterns when, through some efforts on the part of the Department, plans were set in motion for securing funds for extension and research work at the 1890 colleges. The major efforts for these funds, $12.6 million, took place in the Appropriations Subcommittee on Agriculture-Environmental and Consumer Protection. A review of this action may be found in Congressional Record No. 97, page H5752, dated June 23, 1971.

It was implicit in the report, "Hard Tomatoes, Hard Times," that the 1890 land-grant colleges had always received next to nothing by way of sharing in Federal funds appropriated for the land-grant system whether through USDA or otherwise. It was also implicit that these colleges should be properly funded, else why mention the discrepancies in funding?

For too long, the 1890 land-grant colleges have been forced to deal with "rotten tomatoes and hard times." Now that there seems to be some help on the way, certain problems are coming up on the horizon. They are even being called segregated colleges, although percentagewise, they are more integrated than the 1862 colleges. They are being called inferior, although they are educating more low-income black citizens than all the major 1862 colleges combined. It is being said that there is no need for the 1890 institutions any longer since black students can attend the 1862 colleges. Maybe it has never occurred to some people that all black students may not have a desire to attend the 1862 institutions. Moreover, black students and black people, in general, have black pride which makes it necessary for them to want a home base (an educational institution of higher learning) from which to operate as their intellectual center.

These institutions also face the problem of those who would take them over because they have grown to the extent that they are able to secure sizable grants that make possible responsible jobs and attractive salaries. These institutions face the problem of survival because there are those who would close them because it might mean that more money would be available for their educational purposes if these institutions did not exist.

Without a shadow of a doubt, the 1890 land-grant institutions, at present, know better than any other group how to work with and get results from working with low-income people. In the future, they should be given the opportunity to demonstrate this ability under proper funding. This statement does not mean that these colleges do not have other outstanding capabilities. They are capable of high-quality achievements, but like other good colleges, they must have funds capable of supporting high-quality work.

For a long time to come, these institutions will be needed to help overcome the cultural gap that exists in the United States. To some extent, this cultural gap can be attributed to the lack of educational opportunity for people with low incomes.

In order for the 1890 land-grant colleges to fulfill their educational commitment to their clientele, they need a substantial share of "hard money"—funds from existing acts that have been passed. If this is impossible because of the language of the acts, then the language should be changed or new legislation should be enacted. For example, I should like to see each 1890 college receive $500,000 in hard money from the Morrill Act for instructional purposes rather than the small amount now allocated.

The 1890 institutions have never shared in the endowment money made available for 1862 colleges. I understand that the recently created land-grant colleges received $5 million each for endowment purposes. Why cannot each of the 1890 colleges, after all these years of service, receive a $5 million endowment?

A more substantial way of funding 1890 colleges for doing extension work and research should be found. The present funding level should be expanded from $12.6 million in 1972 to $20.6 million in 1973. Moreover, these institutions need money for educational facilities which they never have had. The 1862 institutions have used up all the facility funds and are now making preparation to ask for a new allocation.

The 1890 land-grant colleges can work effectively with low-income people. They have demonstrated their interest, capability, and achievements through the years, in spite of the lack of adequate funds.

My final statement comes by way of a request. For those of the committee who are vitally interested in the 1890 land-grant colleges, please read pages 17-21 of the report, "Hard Tomatoes, Hard Times," with a great deal of thought. (See attachment A.) Maybe the caption on page 17 should read: "Colleges of 1890: The Deep, Dark Truth," instead of ". . . The Deep, Dark Secret."

Senator STEVENSON. Thank you, Dr. Morrison. We will include in the record with your statement its attachments and proceed with the balance of the panel before getting into questions and answers.

(The prepared statement of Mr. Morrison follows:)

The Honorable Adlai E. Stevenson, III, Chairman
Senate Subcommittee on Migratory Labor
United States Senate
June 19, 1972

Mr. Chairman and Members of the Committee:

I am Richard David Morrison, President of Alabama A&M University, one of the 16 land-grant institutions which came into being as a result of the Second Morrill Act, 1890. These institutions were supposed to serve as counterparts to the 1862 land-grant institutions in states that insisted on a separation of races when it came to black Americans.

Up to the present time, most of my life experiences have been in the south-eastern states of the United States. I was born on a farm in Mississippi, and grew up there until finishing high school. My undergraduate work was completed at Tuskegee Institute in Alabama. My Master's degree was earned at Cornell University, Ithaca, New York, and the Ph.D degree was earned at Michigan State University. Both universities, I noticed, are known by the researchers of Hard Tomatoes, Hard Times.

My work experiences for 38 years have been in education -- as a high school teacher of vocational agriculture, as a director of agriculture at the college level, and as president of a land-grant college.

The previous statements were intended to be brief documentation of some credentials that may place my subsequent statements in a better position to claim your favorable attention.

I wish to express my thanks to Senator Adlai Stevenson and his committee for inviting me to testify before this committee. These words go deeper than a mere courtesy statement. They are imbedded in an appreciation for having the opportunity as a black man to speak at a Senate hearing on a matter of importance to people, and especially to black people. Too often there is always someone else who thinks he is better qualified to speak for us; therefore, we are not invited to speak on our own behalf.

Most recently, a report, Hard Tomatoes, Hard Times, seemingly has documented some facts which tend to question the wisdom of certain programs and the expenditure of funds for these programs, especially as they pertain to the land-grant college system. The implications are that the 1862 land-grant institutions have strayed too far from the major intent of the land-grant system in the first place. These accusations may prove to be advantageous to all who are concerned. Maybe it is time for interested people to take a good hard look at how the land-grant system is meeting its objectives.

More important is that some action should be taken to correct the agreed-upon discrepancies and weaknesses when they are identified. Too often when such reports as Hard Tomatoes, Hard Times are fortunate enough to claim public attention, nothing is accomplished after the initial period of excitement is over.

At this point, I should like to discuss briefly one of my main concerns of interest in the whole package of the land-grant system -- the 1890 black land-grant institutions. These institutions, in the 82 years of their existence, have never been accepted by the land-grant family as bona fide members. Even in Hard Tomatoes, Hard Times, the implications of a perpetual dichotomy is there when thoughts are in terms of 1862 and 1899 land-grant institutions. My question is why must there be this dichotomy in the minds of people about these institutions? Why can't the 1890 colleges just be good land-grant colleges in the system, respected and supported for their worth to society?

One of the focal points in the report hinges around the neglect of low-income groups, especially farm people, by the 1862 colleges. This is not true with the 1890 institutions. For 82 years, these institutions have devoted part of their meager general operation funds toward programs for poor people. Not until 1972 did these institutions receive any USDA funds for extension or research work. Moreover, the records will show that very little Morrill funds for instructional purposes were allocated to these institutions. (See Attachment A).

It is common knowledge that the 1890 colleges serve a clientele with an average income of less than $5,000 per year. The 50,000 plus students that the 1899 colleges enroll are, for the most part, from low-income families. If this is true, why then has it been so difficult for these colleges to share in funds that are purported to be available for programs designed to help people?

Hard Tomatoes, Hard Times has brought out into the open the kind of detailed information that can be helpful in appraising what is taking place in the land-grant system, as well as USDA. Regardless of how the tomatoes may be squeezed, there is a lot of meat in the report to be digested.

The statements in the book about the lack of support through the years for the 1890 land-grant institutions by USDA, through programs such as the Extension Service, CSRS, and other funded programs, are to the point. If there is a shortcoming in the section of the report on black land-grant colleges, it is that not much attention was given to efforts on the part of these colleges to participate in programs designed for low-income groups. These institutions have demonstrated their capability to work with such groups time and time again. A typical example of what I am talking about can be found in the language of the recent rural development program. The 1890 institutions were not included in this proposed bill -- only the 1862 colleges. Past experience has taught us that 1862 colleges are not interested in sharing any funds with 1890 colleges. Putting it another way, the law of gravity seems to work in the opposite direction when money is in the hands of USDA and/or 1862 institutions. This is to say that funds gravitate upward to those who are "well off," rather than downward to those who are "poor," be this as it may, a person or an institution.

Some credit must be given to USDA for causing a slight modification in funding patterns when, through some efforts on the part of the Department, plans were set in motion for securing funds for extension and research work at the 1890 colleges. The major efforts for these funds, 12.6 million dollars, took place in the Appropriations Subcommittee on Agriculture-Environmental and Consumer Protection. A review of this action may be found in Congressional Record Number 97, Page H5752, dated June 23, 1971.

It was implicit in the report, *Hard Tomatoes, Hard Times*, that the 1890 land-grant colleges had always received next to nothing by way of sharing in Federal funds appropriated for the land-grant system whether through USDA or otherwise. It was also implicit that these colleges should be properly funded, else why mention the discrepancies in funding?

For too long, the 1890 land-grant colleges have been forced to deal with "Rotten Tomatoes and Hard Times." Now that there seems to be some help on the way, certain problems are coming up on the horizon. They are even being called segregated colleges, although percentage-wise, they are more integrated than the 1862 colleges. They are being called inferior, although they are educating more low-income black citizens than all the major 1862 colleges combined. It is being said that there is no need for the 1890 institutions any longer since black students can attend the 1862 colleges. Maybe it has never occurred to some people that all black students may not have a desire to attend the 1862 institutions. Moreover, black students and black people, in general, have black pride which makes it necessary for them to want a home base (an educational institution of higher learning) from which to operate as their intellectual center.

These institutions also face the problem of those who would take them over because they have grown to the extent that they are able to secure sizable grants that make possible responsible jobs and attractive salaries. These institutions face the problem of survival because there are those who would close them because it might mean that more money would be available for *their* educational purposes if these institutions did not exist.

Without a shadow of a doubt, the 1890 land-grant institutions, at present, know better than any other group how to work with and get results from working with low-income people. In the future, they should be given the opportunity to demonstrate this ability and to prosper funding. This statement does not mean that these colleges do not have other outstanding capabilities. They are capable of high quality achievements, but like other good colleges, they must have funds capable of supporting high quality work.

For a long time to come, these institutions will be needed to help overcome the cultural gap that exists in the United States. To some extent, this cultural gap can be attributed to the lack of educational opportunity for people with low incomes.

In order for the 1890 land-grant colleges to fulfill their educational commitment to their clientele, they need a substantial share of "hard money" -- funds from existing acts that have been passed. If this is impossible because of the language of the acts, then the language should be changed or new legislation should be enacted. For example, I should like to see each 1890 college receive $500,000 (hard money) from the Morrill Act for instructional purposes rather than the small amount now allocated.

The 1890 institutions have never shared in the endowment money made available for 1862 colleges. I understand that the recently created land-grant colleges received $5,000,000 each for endowment purposes. Why cannot each of the 1890 colleges, after all these years of service, receive a $5,000,000 endowment?

A more substantial way of funding 1890 colleges for doing extension work and research should be found. The present funding level should be expanded from 12.6 million dollars in 1972 to 20.6 million dollars in 1973. Moreover, these institutions need money for educational facilities which they have never had. The 1862 institutions have used up all the facility funds and are now making preparation to ask for a new allocation.

The 1890 land-grant colleges can work effectively with low-income people. They have demonstrated their interest, capability, and achievements, through the years, in spite of the lack of adequate funds.

My final statement comes by way of a request. For those of the committee who are vitally interested in the 1890 land-grant colleges, please read Pages 17-21 of the report, Hard Tomatoes, Hard Times, with a great deal of thought. (See Attachment A). Maybe the caption on Page 17 should read: "Colleges of 1890: The Deep, Dark Truth" instead of ". . . The Deep, Dark Secret."

RECOMMENDATIONS

From time to time, the Presidents of the 1890 Land-Grant Colleges discuss the problems that face them. More recently, their thoughts have turned toward making suggestions that seem most appropriate if these institutions are to survive and make the kind of contribution to society that they are capable of making in the future.

To this end then, in order for the 1890 colleges to more adequately fulfill their commitment to the people they serve, it is recommended that the Federal Government:

1) Establish experiment stations on the campus of each 1890 college and give these colleges the freedom, encouragement, assistance and support to attack all areas which will result in improved life styles for people and communities.
2) Reestablish the Coöperative Extension Service as a meaningful part of each 1890 college.

Extension service was a vital part of all 1890 colleges. Under the guise of desegregation this important service was ripped out of the 1890 colleges and the type of services needed by the people is now missing in the areas where large numbers of blacks and browns reside. Active extension programs must be restored to 1890 colleges and they must be fully supported. The programs will not represent duplication.

The 1890 colleges, marching side by side with the 1862 colleges and other institutions, must be recognized as a legitimate part of the pluralism which is consistent with the American tradition. The question of duplication in America does not arise until its color is black or brown or its nature is poor. The 1890 colleges must be, once and forever, recognized as a pluralistic partner on the American higher education scene. Extension service must also be recognized as a pluralistic thrust from a most capable segment of the educational enterprise, namely the 1890 colleges.

The 1890 colleges can create innovative and meaningful approaches in a constructive extension service. It is imperative that this role be assigned to these colleges.

3) Establish data banks and retrieval systems at the 1890 colleges.

The 1890 colleges must be given financial support to establish contemporary data banks and information retrieval systems within each state and between each state, on all aspects of human needs and human technological factors. It is doubtful that there exists anywhere in the country the true facts on poverty-related consequences. It is doubtful that accurate data exist concerning the poor, unemployment, health, finance, jobs, etc. The 1890 colleges are capable of collecting and refining available data which will reveal a true picture. As a consequence, new solutions will be possible.

4) Reaffirm, recognize, establish, and support a moral commitment to the 1890 colleges as one of the principal educational agencies in each state as an aid to resolving people problems.

The problems facing our nation are so complex that they challenge the imagination and resources of all agencies interested in solutions. Rightly, the 1890 colleges should be designated to attack certain segments of these problems. It would be a tragedy and a sad commentary on higher education if the rich experiences, extensive expertise, great dedication, and positive commitment of these colleges are not used as principal resources in the solutions of problems facing our nation. One might be so bold as to predict that the problems will not be solved if the 1890 colleges are not a significant part of the action.

5) Make a financial commitment to fund the 1890 colleges as full partners in the land-grant college system. This commitment should include:

a. The establishment of endowments, to which they are entitled, but have never received, for each of the 1890 colleges.

b. Full-funding of the annual Morrill-Nelson appropriations for the 1890 colleges to provide needed teaching equipment.

c. The establishment of "catch-up" funds to bring teaching equipment at 1890 colleges up to a level consistent with 1862 colleges.

d. Substantially increase the level of funds for state agricultural experiment stations at 1890 colleges to permit them to work on a greater portion of "people problems" in their respective states.

e. Substantially increase funding of cooperative extension work at the 1890 colleges to enable them to deliver meaningful services to rural people in terms of their immediate and potential needs.

f. To provide in each state a rural or people development center under the direction of each of the 1890 colleges. These centers will capitalize on present expertise of the 1890 colleges as well as embark on new and different approaches in developing meaningful solutions to the people problems.

g. Funds must be provided to construct adequate physical facilities at the 1890 colleges comparable to those at 1862 colleges for the proper conduct of teaching research and extension services.

h. At least one USDA physical building and program should be established on the campus of each 1890 college so as to demonstrate a commitment of true alliance between USDA and the 1890 colleges.

6) Make a moral commitment to eliminate all forms of racism and discrimination in programs and resource allocation, especially funds, from the land-grant system; to recognize as valid, the pluralism of the 1890 and 1862 colleges and to develop this pluralism into a meaningful system for delivering to the people of our land, a life style which enhances them individually and affords them life, liberty, and the pursuit of happiness.

A full study should be made of legislation governing the land-grant college system. New legislation should be enacted and/or existing legislation should be modified to guarantee full partnership and status of the 1890 colleges in the land-grant system.

APPENDIX A

COLLEGES OF 1890: THE DEEP, DARK SECRET

In 1862, at the time of the first Morrill Act, 90 percent of America's black population was in slavery.[23] The land grant colleges that developed were white bastions, and even after the Civil War, blacks were barred from admission both by custom and by law. When the second Morrill Act was passed in 1890, primarily to obtain more operating money for the colleges, Congress added a "separate but equal" provision authorizing the establishment of colleges for blacks. Seventeen Southern and Border states took advantage of the Act, creating institutions that still are referred to euphemistically as "colleges of 1890."

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[23] William Payne. "The Negro Land-Grant Colleges." Civil Rights Digest. Vol. 3, No. 2, Spring 1970, p. 12.

The black colleges have been less than full partners in the land grant experience. It is a form of institutional racism that the land grant community has not been anxious to discuss. From USDA, resource allocations to these colleges are absurdly discriminatory--Peter Schuck of the Center for Study of Responsive Law, reports that "Of the approximately $76,800,000 in USDA funds allocated to these schools, about 99.5% went to the sixteen white land grant colleges; the 1890 colleges received a grand total of $383,000 (or 0.5%)."[24] As shown in Figure 1, less than one percent of the research money distributed by Cooperative State Research Service (CSRS) to those sixteen states in 1971 went to the black colleges.

This disparity is not by accident, it is by law. The Hatch Act of 1887 provides that Federal research money "shall be divided between such institutions as the legislature of such State shall direct." The McIntyre-Stennis Act, authorizing money for forestry research, gives the power of designation to the governor of each state. The Smith-Lever Act, authorizing funds for extension, also turns the money over to the college selected by the state legislature. Senator Smith himself

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[24] Peter H. Schuck. "Black Land-Grant Colleges: Separate and Still Unequal." Unpublished paper. February 1972, p. 8. Available from Center for Study of Responsive Law, 1156 Nineteenth Street, N.W., Washington, D.C., 20036.

FIGURE 1:

CSRS Distribution of funds to Colleges of 1890 and to predominantly white institutions in the same states

State	Institution	FY 1970	FY 1971
Alabama	Alabama A&M*	$ 18,396	$ 18,396
	Auburn University	1,765,043	1,962,179
Arkansas	Arkansas A&M & Normal*	16,980	16,980
	Univ. of Arkansas	1,486,634	1,644,936
Delaware	Delaware State*	12,413	12,413
	Univ. of Delaware	547,9[illegible]9	605,855
Florida	Florida A&M*	14,946	14,946
	Univ. of Florida	1,070,418	1,205,759
Georgia	Fort Valley State*	18,836	18,836
	Univ. of Georgia	1,918,117	2,138,902
Kentucky	Kentucky State*	19,080	19,080
	Univ. of Kentucky	1,859,135	2,078,901
Louisiana	Southern University*	16,251	16,251
	Louisiana State Univ. & Louisiana Tech	1,337,213	1,487,282
Maryland	Univ. of Md., Eastern Sh.*	14,231	14,231
	Univ. of Md., Coll. Park	962,558	1,082,689
Mississippi	Alcorn A&M*	18,751	18,751
	Mississippi State Univ.	1,830,043	2,048,632
Missouri	Lincoln Univ.*	18,239	18,239
	Univ. of Missouri	1,718,465	1,950,328
North Carolina	North Carolina A&T*	22,424	22,424
	North Carolina St. U.	2,564,066	2,882,386
Oklahoma	Langston Univ.*	15,956	15,956
	Oklahoma State Univ.	1,229,335	1,359,792
South Carolina	South Carolina State*	17,143	17,143
	Clemson University	1,501,523	1,677,593
Tennessee	Tennessee State Univ.*	19,256	19,256
	Univ. of Tennessee	1,905,060	2,127,860
Texas	Prairie View A&M*	21,991	21,991
	Texas A&M Univ. & Stephen F. Austin St.	2,445,273	2,728,487
Virginia	Virginia St. College*	18,107	18,107
	Virginia Polytech. Inst.	1,702,819	1,991,628
Total	Colleges of 1890[1]	$ 263,000	$ 283,000
	Predominantly white[2] Institutions	$25,847,536	$28,853,229

[1] Funds from Public Law 89-106.

[2] Hatch and McIntire-Stennis Act funds.

*Denotes colleges of 1890.

SOURCE: USDA. CSRS.

left little room for doubt concerning the interpretation of these provisions: "We do not...want the fund if it goes to any but the white college."[25]

In 1971, USDA suffered a belated twinge of conscience and accepted a proposal from Representative Frank Evans that $12.6 million be appropriated directly to the black colleges for research and extension. Once the money was appropriated, however, USDA adopted a scheme of "coordination" whereby the white land grant colleges still were in charge of the resources of the black colleges. As Peter Schuck put it in a letter to Secretary Clifford Hardin:

> The core of the new procedure is a "research coordinating committee." Obviously, no responsible person can be against the coordination of research, and the 1890 colleges are no exception. But the RCC, as established by the CSRS guidelines, is less a device for coordinating research between autonomous institutions than an instrument for the effective control by the 1862 colleges of the research funds intended by Congress for the 1890 colleges.[26]

Of course, twelve million dollars, even if under the full control of the black institutions, does not begin to approach the enormous need. If whites in rural America are in trouble, blacks are facing disaster. The median income for black farm families was $3,027 in 1970, compared to $7,016 for white farm families. The number of black-operated farms fell from 559,980 in 1950 to an estimated 98,000 in 1970. During the decade of the 1960's, black people left the sixteen southern states at an annual rate of 140,000--1.4 million for the decade.[27]

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[25] Quoted in: Schuck. Ibid., p. 9.

[26] Peter H. Schuck. Letter to Secretary of Agriculture Clifford M. Hardin. October 14, 1971.

These people need the attention of a land grant complex that is attuned to their needs. But the system does not respond--a hundred years after the first Morrill Act, and 82 years after the second Morrill Act, the system will not let go of even a few million dollars to help the black people in rural America. It is more than their secret; it is their shame.

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[27] All figures from: National Sharecroppers Fund. "Rural Black Economic Development: A Position Paper." Unpublished, 1972, [illegible] 4 and 6. Available from NSF, 1346 Connecticut Avenue, N.W., Washington, D.C., 20036.

Senator STEVENSON. Mr. Schuck.

Mr. SCHUCK. Thank you, Mr. Chairman, and I wish to thank the subcommittee for its invitation to testify today.

Senator STEVENSON. Mr. Schuck, I do not know what Congressman Evans' time problems are. The staff suggests perhaps I ought to proceed with the Congressman next, if that is all right.

Mr. SCHUCK. Certainly.

Senator STEVENSON. Thank you.

Congressman Evans of Colorado has played an important role in bringing the public's attention to the long history of discrimination and segregation in the land grant college complex. Recently he has taken action as a member of the House Appropriations Committee to try to correct the misallocation of the funds between the 1862 and the 1890 institutions.

I am very grateful to you for appearing here today, Congressman, and look forward to your statement.

Mr. EVANS. Senator, I appreciate so much the fact that you are having these hearings and have made it possible for me to appear before you and speak to you on this question.

I do have some schedule problems today, and I deeply appreciate your courtesy in letting me go before you, Mr. Schuck.

Rather than read my statement I would like to submit it for the record and have it in the record as though it were read at length.

Senator STEVENSON. It will be entered in the record.

(The statement of Congressman Evans follows:)

STATEMENT OF HON. FRANK E. EVANS, A MEMBER OF CONGRESS FROM THE STATE OF COLORADO

Mr. EVANS. Mr. Chairman, in 1862 Congress provided for the creation in each State of a school for agricultural, mechanical, and general education at the college level. After the Civil War in 1890, additional colleges were created in 16 States having large black populations. Financing of all these land-grant colleges has been shared by the Federal and State Governments ever since their creation.

For over 80 years, these 1890 colleges have been citadels of college education for blacks. An HEW survey in 1969 found that approximately one-fifth of all black college undergraduates were enrolled in these schools. From these colleges have come the majority of the black college-educated farmers, engineers, and officers of our Armed Forces.

But, despite the crucial role these 1890 colleges play—particularly in the education of students from minority or disadvantaged backgrounds—these institutions have been notoriously bypassed in the allocation of Federal and State funds. Unless legislative action is taken this inequitable situation is likely to worsen in the future. Let us look at the record.

One of the major sources of funds for all the land grant institutions comes from the Department of Agriculture. William Payne, of the U.S. Civil Rights Commission in a 1970 article, noted that:

> In fiscal 1968 the USDA gave $60 million to the predominantly white land-grant colleges, 150 times the figures of less than $400,000 it gave to the 16 predominantly Negro land-grant colleges in the same states.

Payne further noted that this imbalance could not be explained by relative school enrollment, as the white land grant schools had only 5½ times more students than the black land grant schools, where there was both a predominantly white and a predominantly black land grant school in the same State.

As late as fiscal year 1971 in these 16 States having both a white and black land grant school, the white schools were allocated approximately $87 million by USDA through the Hatch and Smith-Lever Acts, while the main source of Federal agriculture funding to the predominantly black colleges in these States (Public Law 89–106 funds) allocated grants totaling only $286,000. This small sum, when allocated to the black land grant colleges ranged from a high of $22,000 to a low of $12,000, which comes to an average of only $17,687 for each of these black institutions.

In fiscal year 1972, Congress finally took a first step to partially rectify this injustice, when the USDA appropriations request for the 16 1890 colleges was increased from $4 million to more than $11½ million.

However, in the same year the 16 white land grant colleges in these same States, received from USDA approximately $94 million—almost $82½ million more than the 1890 land grant colleges.

Furthermore, although the 1890 land grant colleges received this increase in funding the impact was severely limited, because the funds were required by law to be focused solely on new research and were spread out over a 3 to 4 year period.

A number of these 1890 institutions that received this increased funding for research projects also found that they desperately needed increased research facilities. However, the Public Law 89–106 funds they received cannot be utilized for building research facilities or buying equipment, and other funds for construction and purchase of equipment have been hard to come by.

To see how seriously underfinanced these 1890 colleges are from all major Federal sources, it is only necessary to examine the figures supplied to me by the Federal Interagency Committee on Education.

In 1970, for example, the 16 predominantly black land grant schools received only slighly more than $23 million from all the major Federal funding programs, while their 16 white counterparts were receiving approximately $71 million from agriculture programs alone.

In other words in the 16 States having both an 1862 and an 1890 land grant school, the predominantly white schools were receiving approximately three times as much from the Department of Agriculture alone as the predominantly black schools were receiving from all major Federal sources.

Preliminary figures for 1971, the latest compiled data, are even more disquieting. The 16 1890 land grant colleges received only $28,843,400 from all major Federal sources while the predominantly white land grant colleges in the same States received $87 million from the Hatch and Smith-Lever Acts alone. Therefore the 1862 schools were receiving approximately thre times more from two agriculture programs—Hatch and Smith-Lever—than the 1890 colleges were receiving from all major Federal programs combined.

In the light of these circumstances, a disturbing factor to me is the provision contained in both the Hatch and Smith-Lever Acts which directs the State legislatures in the 16 States having both 1862 and 1890 land grant colleges to designate "the college or colleges" which will receive these funds. In all 16 States the 1862 colleges have always been chosen. In the 15 years from fiscal year 1957 to fiscal year 1971 this situation resulted in the 16 1862 colleges receiving more than $700 million while the 1890 colleges received nothing from the Hatch and Smith-Lever Act funds.

What makes this situation particularly sad is the fact that when the 1890 land grant colleges have been given a chance, they have shown themselves capable of excellence. The USDA has admitted that the 1890 land grant colleges have a "rapport" and "unique channels of communication" with "the unreached and hard to reach" in rural areas of the South. USDA has also stated that with the slightly increased research funding the black colleges have recently received, they have already begun to carry out innovative and energetic programs particularly aimed at aiding the lot of the rural poor.

Therefore it is critical that Congress seek ways to end the Federal Government's long history of neglect of these important 1890 institutions.

I can only concur with one of the presidents of the predominantly black land-grant colleges when he stated that:

> "It is important to remember that all of the 1890 black land grant institutions are 80 years behind in sharing federal funds for research and extension work. 'Catch-up' money is desperately needed by all these institutions."

Ralph K. Huitt, executive director of the National Association of State Universities and land-grant colleges has stated what we could expect if catch-up money were at long last channeled to the 1890 institutions when he wrote:

> "I have great confidence in the viability of these [1890] institutions and in their capacity to expand enormously their contributions to black people and to the nation. They need money, lots of money, from many sources; their principal problem always has been lack of funds. I believe they have demonstrated their ability to get as much out of a dollar as any institution in the nation."

It is my hope that Congress will quickly act to amend the Smith-Lever and Hatch Acts in order to assure that the 1890 colleges will receive substantial direct Federal agriculture funding and thereby finally allow them to take their rightful place in the land grant system.

Mr. Evans. Senator, it has just been in the last few years when I was on the Appropriations Subcommittee that the funding of black land-grant colleges came to my attention. My staff did a research effort on it, and we had help from all kinds of people, including Dr. Morrison and others.

The more that we looked at it and looked at the history of the past 82 years of the existence of these institutions, the more outrageous their position seemed to us to be.

Last year we did the best we could to increase some of the funding for the 1890 colleges, and we hopefully are making efforts this year to increase this funding. Whether it will be at the level mentioned by Dr. Morrison or not I cannot say, but certainly I do not think the money he refers to, the $20 million he refers to, is unreasonable, particularly when we look at the slim financing these institutions have had in the past 82 years.

One figure that jumped out at my staff and me as almost unbelievable, as set forth in my statement, relates to the funding of the black land-grant colleges for the last 15 years. I would like to bring out one paragraph of my statement here. I am talking now about the provision in the law in both the 1862 law as well as the 1890 law which required the States to appoint a college or colleges to receive the Federal funds, and then to disburse them between the black and the white land-grant colleges. In other words, the appointment of a fiscal agent to receive moneys from the Federal Government was required.

In the light of these circumstances a disturbing factor to me is the provision contained in both the Hatch and Smith-Lever Acts which directs the State legislatures of 16 States having both 1862 and 1890 land-grant colleges to designate the college or colleges which will receive these funds.

In all 16 States the 1862 colleges have always been chosen. In the 4 years, from fiscal year 1967 through and including fiscal year 1971, this situation in my opinion has resulted in the 16 1862 colleges receiving more than $700 million, while the 1890 colleges received nothing from the Hatch and Smith-Lever Acts.

This is a monstrous fact. I do not know whether this could be corrected administratively without changing the law, or whether the law has to be changed, but certainly the history of the last 15 years resulting from this kind of inequitable distribution of funds leaves me with little confidence, regardless of the administration we are talking about—Democratic or Republican—that this situation can or will be remedied in time to give the 1890 colleges the help they need now.

I agree with Dr. Morrison, not only do they need general funds for extension and for research but, unlike the 1862 colleges, the 1890 colleges have not had equipment, et cetera, that is needed for research, and so their position even if they were given more funds is one of not being in a position to take on the kind of research these institutions should be designed to do.

I heartily join in the statements made by Dr. Morrison. Again I congratulate you, Senator, and the committee for having the interest in this subject matter, and wish to tell you if there is anything that I can do to be of assistance in this regard, I will be more than happy to do so, and I wish to thank you for taking the subject up and allowing me to come to testify.

Senator STEVENSON. I thank you, Congressman. I hope we can continue to work together on this as well as some other problems.

The argument is made by the USDA that the provision of funds is made in the States by the State legislatures. If that is the explanation, what alternative is there for us to correct this situation?

Mr. EVANS. May I also say this, Senator. Some say, if I understand their position, that title VI of the Civil Rights Act, does not apply to these funds of the Department of Agriculture.

I do not accept it. I disagree. Yet if the Department persists in this attitude, it will take either an act of Congress or decision of court to change this.

Senator STEVENSON. Has the applicability of the Civil Rights Act been tested in the courts?

Mr. EVANS. To my knowledge it has not been in terms of the Smith-Lever and Hatch Act funds.

Senator STEVENSON. May I ask, Dr. Morrison, why that is? Why have not the 1890 institutions gone to court?

Dr. MORRISON. All I can say is that that is a good question. Perhaps it is not known. Perhaps we have not had the kind of backing whereby we thought if we were to go to the courts we would win, because this is a powerful political type situation which has prevailed especially in the extension service.

I do not know whether USDA could do anything with it, but there is a law which says that at the discretion of the Secretary of Agriculture he can require certain distributions of these funds, and this is where it gets us into politics. My guess is that no Secretary of Agriculture would want to go up against the establishment because probably he would lose his job.

Senator STEVENSON. It is also argued that the 1890 colleges do not have the research extension capabilities of the 1862 colleges. How do you answer that?

Dr. MORRISON. I would answer like this. You have 1862 universities such as Ohio State, Iowa, Wisconsin, Cornell; you also have the 1862 universities such as Auburn, LSU, Oklahoma State, none of which have the research capabilities of a Cornell or an Iowa State.

Yet, we do not condemn these institutions for their apparent shortcomings. There is no talk about phasing them out because they do not have extension or research capabilities comparable to other 1862 colleges. A study was made 2 or 3 years ago by USDA people and others, and they published the fact, that these 1890 institutions do have capabilities, both in staff and in facilities which they have managed to glean through the years by being very scrupulous in the use of funds.

Senator STEVENSON. Is it not also true that if they do not now have the research capability it is because of the discrimination against them in the past, and that the consequences of that discrimination are now used to justify further discrimination?

Mr. EVANS. That is the way it strikes me, Senator, and it is a ridiculous situation for people to take, for the very reasons you state.

Unless, in my opinion, a crash program is undertaken to provide the funds so that they can get the facilities and the equipment and the teachers, they are not going to be able to serve as they should be able to serve and have proved they can serve.

I am awfully sorry that I have to leave these hearings now. I do appreciate your courtesy, and the courtesy of you gentlemen.

You have two good witnesses, and I am sure they will bring a great deal of useful information to us.

Senator STEVENSON. Thank you very much, Congressman Evans.

I know you have a busy schedule, and I appreciate your taking the time to come over here.

Before we get back to you, Dr. Morrison, let us proceed now with Mr. Schuck's statement.

Mr. SCHUCK. Thank you, Mr. Chairman. I have a prepared statement which I will submit for the record and then confine my remarks to supplementing the presentations that have been made by Congressman Evans and Dr. Morrison.

I should like to address in particular the area of the legal environment in which these allocations of funds have been made over the years.

As Dr. Morrison described, the black land-grant colleges were established under the Second Morrill Act in 1890, and they were to be treated, as the law states, in every way as if they had been established under the 1862 act.

In 1887 the Hatch Act had been enacted by the Congress to establish agricultural experiment stations throughout the Nation affiliated with the land-grant colleges. The act did not state that they would be affiliated with the 1862 colleges, and when the 1890 act was passed setting up a second set of colleges, the Hatch money could as well have gone to the 1890 colleges as to the 1862 colleges, or there could have been an allocation between them.

The Hatch Act and then the Smith-Lever Act in 1914, which established the extension service in each State, also was to be affiliated with land-grant colleges. Again the acts themselves did not preclude the allocation of funds between the black and white land-grant colleges in each State. Indeed, it left the administration of these funds to the State legislatures.

In every case, and in every year since the 1890 colleges were established, the State legislature in each of these States has allocated every penny of the Hatch Act money and the Smith-Lever Act money to the white land-grant colleges.

In fiscal 1970, that amounted to $66 million under the Smith-Lever Act and $27 million under the Hatch and McIntyre-Stennis Acts.

So we have a deficit of about $93 billion just for fiscal 1972. I would again advert to Dr. Morrison's statement, to the fact that the 1890 colleges tend to service a group of students, a group of farmers, a sector of the rural population which is decidedly more needy of these services than those traditionally served by the 1862 colleges, so this disparity when viewed in that light becomes even more shocking.

Really what we have is a perverse distribution of income to those who have it from those who do not have it.

As to the USDA position, USDA steadfastly refuses to acknowledge any legal obligation on its part to insist that the States, as a condition of receiving these extension and experiment station funds, allocate them fairly between the two land-grant colleges.

USDA contends, first of all, that title VI of the Civil Rights Act is not violated by these arrangements since the benefits conferred by the agricultural extension and research services are available to all persons in the State.

As you know, title VI of the Civil Rights Act makes it illegal to discriminate in the conferring of benefits of Federal funds as between potential beneficiaries.

There is absolutely no question—and it is documented by internal USDA documents as well—that the benefits that have been conferred by the allocation of Federal funds to the 1862 colleges have been conferred almost exclusively on white farmers and primarily on large white farmers.

I would refer you, in particular, to the reports of the Office of the Inspector General of USDA which have consistently found from 1965 through the present that the extension services in the Southern and border States discriminate persistently in such elementary matters as the holding of segregated meetings, the use of segregated mailing lists, the refusal to permit white agents to serve blacks, or to permit black agents to serve whites, discriminatory hiring policies, discriminatory promotion policies, et cetera.

These reports have come out every 2 years since 1965 and have documented the same thing. Just last year, there was a report on the extension service in a county in Maryland which found the very same conditions to exist as existed when the first report was completed in 1965.

In addition, the U.S. Civil Rights Commission has conducted a number of studies, and has done an admirable job of documenting the discrimination that prevails. In its most recent report which was probably the fourth in a line of reports issued in 1971, it documented again the persistence of these illegal and discriminatory conditions.

I shall read just a portion of their conclusion.

> Improvements in the overall DOA title VI program have been undermined by the grossly inadequate performance of the extension services, an agency whose program is fundamental to every agricultural program. The extension service has consistently failed to discharge its title VI responsibilities to take forceful corrective action against noncomplying recipients. Specifically, the extension service compliance program has been marked by unparalleled procrastination in dealing with the numerous State extension services which have failed even to file acceptable title VI assurances. Seven years after the enactment of the Civil Rights Act of 1964, these noncomplying recipients continue to receive financial assistance from DOA.

This was written in November 1971.

Despite overwhelming evidence of discrimination, the Department of Agriculture has never commenced a single title VI hearing. That is, it has not even taken the most minimal step toward cutting off Federal funds, even though this is mandated under title VI of the Civil Rights Act of 1964.

Before I proceed to the second argument, let me say that in response to your inquiry before as to the applicability of title VI to these matters, it is quite clear in the case law which has grown up in other areas such as housing, transportation, urban renewal, so forth, that title VI does apply to a situation in which discrimination is no longer carried out per se but the consequences of past discrimination have not been alleviated by the use of Federal funds.

Indeed, USDA has itself issued a regulation, as required under title VI, which requires that all USDA funds be used in such a way that the effects of past discrimination shall be overcome.

Needless to say this has not been the case with regard to the funds under the Smith-Lever and Hatch Acts.

The second argument that USDA has advanced is that it is a matter for each State to decide where these funds can best be utilized, and indeed that is the wording of the statute.

However, what USDA fails to consider, despite the efforts of myself and the Congressman's efforts and the efforts of others to bring this to their attention, is that those very same statutes also include a clause which states that where funds are "misapplied," where Federal funds are "misapplied" under the Smith-Lever or Hatch Acts, these funds "shall be"—not "may be" but "shall be"—withheld by the Secretary of Agriculture from the States that are misapplying them.

In the 60-odd years of the extension service, funds have been withheld under this clause, and indeed funds have been withheld from the experiment stations under this clause. The reasons governing these withholdings tend to be the existence within a State of certain political squabbles that suggest that the money would not be well utilized.

I would contend that the situation that has existed for 82 years with respect to the discrimination against the 1890 colleges is a condition far more deserving of the invocation of this authority to withhold funds than any that has yet been used by the Department of Agriculture.

The Department of Agriculture refuses to respond to our persistent questioning as to whether this provision of the existing laws would justify their withholding funds from the 1862 colleges or from the extension service and experiment stations. They simply refuse to respond to this questioning.

I would suggest, Senator, that if you were to direct that question to Secretary Butz tomorrow, he might well be put on the spot to the extent of refusing to respond to that, but that is a very key question.

USDA also feels that the needs of the black land-grant colleges are being met under Public Law 89–106 for the first time. After accepting an amendment by Congressman Frank Evans, this allocation was increased to $12.6 million. I might point out that up until last year, these schools received $283,000 per year since 1968. That is to be divided between 16 schools, so you can see it is not very much money.

Prior to 1968, they received zero under Public Law 89–106. While certainly the new funding is a welcome development, it was a long time coming, and it was not an easy victory to win, and it was precisely through the efforts of Dr. Morrison and Congressman Evans and others that the victory was won.

But it is a very tenuous victory, and its continuance is by no means assured.

Having won these $12.6 million, how were they administered? I have a correspondence that I entered into with the Secretary of Agriculture concerning the administration of these funds which I should like to enter into this hearing if I may. The correspondence suggests that these funds are administered very much in the way of the past, that is, under the control of the 1862 colleges. They are administered in a way that imposes more stringent requirements for funding for the 1890 college projects than the 1862 college projects.

In every way, this administration of funds is under the control of a so-called coordinative mechanism which is essentially a designation of the 1862 colleges as the recipients when the funds were specifically designated by Congress to go to the 1890 colleges.

I think if you will read that correspondence, you will agree that winning the battle in the Appropriations Committee is just the beginning of the struggle.

In addition, I might suggest that in three States, North Carolina, Mississippi, and Alabama, the extension services of those States have been sued. Among other things they have been sued under title VI of the Civil Rights Act.

In Alabama, Judge Johnson delivered a very forceful opinion last September in a case in which he found that Alabama had engaged in systematic discrimination and he found it necessary to issue a decree designed to prevent discrimination in the future.

Notwithstanding all sorts of regulations by USDA concerning equal employment opportunities in the Extension Service, discrimination has continued.

Title IV is very much applicable. A Federal court has so found, though it did not address itself particularly to the 1890 college question.

There are two other suits pending. They also did not raise the 1890 college legal discrimination question. Dr. Morrison is perhaps too discrete to advert to the question of why a suit has not been brought in the past, but it is quite clear that the political implications of such a suit to the 1890 college are enormous.

It is easy to see why they have not brought suit before. This is something title VI of the Civil Rights Act requires the Department of Agriculture to do. But I think if you examine the sources of these funds at these schools, you will perceive why it is difficult for them to bring suit against the State.

They receive more money from the State government than they do from the Federal Government. In fact, the State governments are less discriminatory than the Federal Government is. Within the Federal Government there is no agency that is more discriminatory toward them than USDA.

I would be happy to answer any questions that you may have. That concludes my remarks.

Senator STEVENSON. Thank you, Mr. Schuck.

Your whole statement will be entered in the record and the correspondences you referred to, if you will give it to us.

(The prepared statement of Mr. Schuck, with accompanying correspondence, follows:)

STATEMENT OF PETER H. SCHUCK
CENTER FOR STUDY OF RESPONSIVE LAW, WASHINGTON, D.C.
Before the
SUBCOMMITTEE ON MIGRATORY LABOR OF THE
SENATE COMMITTEE ON LABOR AND PUBLIC WELFARE
June 19, 1972

Gentlemen:

I wish to thank the Subcommittee for extending to me its invitation to testify today.

These hearings are long overdue and most welcome. Few institutions have shaped rural America with greater effect, and less public scrutiny, than the land-grant college system. Like many institutions, it began its life with the most exalted and noble objective--nothing less than the democratization of American education. In cooperation with its kin, the Extension Service and the agricultural experiment stations, the land-grant colleges were to disseminate knowledge and progress to those populations in rural America which needed it most if they were to share in the bounty of the great American harvest.

With the clarity of hindsight, we can now see how that bounty has been distributed, and the tragic social costs which this maldistribution has brought in its wake. What is more relevant for this Subcommittee's deliberations, these social costs are certain to increase in the future unless the Federal Government immediately alters its myopic policies of strengthening the strong and weakening the weak. Federal policy with regard to the black land-grant colleges is a case very much in point.

Since World War II, the average size of farms has increased dramatically as farm population and the number of farms have plummeted. The devastating effects of these changes on urban life are all too well known, and I shall not discuss them further. If present trends continue, the present 2.9 million farms will decline to 1.9 million in 1980, and about 95,000 large farms will account for over half the nation's food and fiber.

The burden of this exodus of small farmers from agriculture has fallen disproportionately on black farmers. Between 1950 and 1970, the number of black-operated farms declined from 560,000 to 98,000, and the black farm population from 3.1 million to 938,000. The average annual farm population loss was 10.5 percent for blacks compared to 3.9 percent for whites.

These extraordinary changes did not just happen, nor do they simply signal a departure from agriculture of inefficient resources. The sources of these far-reaching transformations are political, social and legal, as well as economic.

Over 50,000 black students (one out of every nine black collegians in the U.S.) attend a most unique group of institutions of higher learning--the black land-grant colleges. They are unique in terms of their historical roots, their student bodies, their educational mission and accomplishments, and their legal and politcal status. But what distinguishes them most dramatically from other public colleges is the shockingly discriminatory treatment which they have long received at the hands of the states and the Federal Government, and particularly the U.S. Department of Agriculture, established by President Lincoln in 1862 as the "people's Department."

The 16 black land-grant colleges, all located in the South and border states, are a diverse group. They differ enormously in terms of size, curriculum, tradition, intellectual attainment, and academic focus. But for all their differences, certain similarities are particularly striking.

Each of the black land-grant colleges was spawned as part and parcel of a system of legally-sanctioned segregation. The Morrill Act of 1862 granted Federal lands to each state for purposes of public sale, the proceeds of which were to become a permanent endowment for a public college in that state. The mandate of these "land-grant" colleges was "to teach such branches of learning as are related to agriculture and the mechanic arts, . . . in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life."

The Morrill Act of 1862 was little comfort for blacks. The vast majority were slaves at this time, and the newly-established land-grant colleges in the South and border states were white preserves, barred by custom (and later by law) from admitting blacks, be they slaves or freemen. In 1890, Congress enacted the Second Morrill Act which increased Federal assistance to these colleges and also authorized the creation of separate land-grant colleges for blacks, if the Morrill funds received by a state were "equitably divided."

Seventeen Southern and border states implemented the 1890 Act by establishing separate land-grant colleges for blacks, either by creating new institutions for blacks or altering the status of existing black colleges. These "Colleges of 1890" have, along with the other black public colleges, traditionally been the major route by which black students could gain an inexpensive college education and entry into the professions. What is more important, these colleges, along with the other predominantly black colleges, will for the foreseeable future remain the best hope for a college-trained black middle class, particularly in the South. Thirty-six percent of the [illegible]70,000 blacks enrolled in college in 1970 attended predominantly black colleges, over a third of these in the black land-grant institutions. In the South, these proportions are far higher.

What is more important, the black land-grant institutions educate a very significant share of the college students from low-income families. According to the Southern Regional Education Board, only 7% of the nation's collegians are drawn from low-income families. The percentage of blacks in this group is inordinately high. According to the Carnegie Commission for Higher Education, the average family income of 37.6% of entering black students entering black colleges in 1968 was under $4,000. Yet the black land-grant colleges, as well as the predominantly black colleges generally have, in the Commission's words, had "remarkable" success in training such "high risk" students.

Despite this longstanding record of success where other colleges have failed--perhaps due to the fact that 93% of the budgets of the 1890 institutions is devoted to teaching--the continued viability of the black public colleges in general and the 1890 colleges in particular, is endangered by two major threats: formal integration and continued segregation. As John Edgerton has documented in his recent "Black Public Colleges: Integration and Disintegration," integration of public higher education in the South has increasingly meant the destruction of the black public institutions and with them, the only hope of tens of thousands of blacks for a college education. Several of the 1890 colleges, including West Virginia State College and Lincoln University, are now predominantly white. In many other states, including Tennessee, Florida, and Virginia another pattern is becoming all too clear. These states have moved to establish new, competitive, predominantly white (and only nominally integrated) college facilities close to the black colleges or to upgrade existing ones nearby. In either case, the result is the same: the black college finds it impossible to hold its white students and increasingly difficult to attract the most talented blacks. Lawsuits challenging the legality of these practices have been filed in several states. In one such litigation, a federal court enjoined Virginia from upgrading its Richard Bland Junior College into a four-year college which would compete with nearby Virginia State College, a black land-grant institution. But in Tennessee, the court, while ordering the state to come up with a plan to dismantle the dual system, permitted the state to proceed with construction of a Nashville facility for the University of Tennessee. This facility, plaintiffs alleged, would duplicate, compete with and ultimately destroy the program of Tennessee State University, the black land-grant institution in Nashville. The court reasoned that the non-discriminatory admissions policy of the state university wholly fulfilled the state's obligation to dismantle the dual system, though conceding that such a "freedom of choice" policy had been held to be an utterly inadequate fulfillment of this duty with respect to the public schools.

As the plaintiffs in these cases argued, and as Edgerton shows, this form of "integration," as with so many others, may well end with blacks paying a terrible price: not simply the reduction of black student and faculty enrollment, but the destruction of extremely serviceable institutions uniquely capable of fulfilling the educational and social mobility needs of black Americans.

But destruction through "integration" is only one threat to the 1890 colleges. Destruction through segregation is another. While the land-grant colleges are nominally integrated, the white land-grant colleges in dual system states are about 5% black, while the 1890 colleges are about 7% white.

Nevertheless, the funding patterns of the white and black land-grant colleges confirm what the law denies: inequality and segregation are alive and quite well in the land-grant college system. An examination of these patterns reveals a number of suggestive facts. First, the 1890 institutions receive very little revenue from private sources.

Second, the state appropriations for the white and black land-grant colleges in the same state for operating expenses are, even on a per capita basis, both unequal and increasingly so. According to Civil Rights Commission figures, state appropriations to the white and black land-grant colleges on a per capita basis during fiscal 1970 were $1,585 and $1,180, respectively. In fiscal 1971, the corresponding figures were $1,763 and $1,260, respectively. Thus, while per capita state appropriations increased for both groups of schools, the amount going to the 1890 colleges as a proportion of that going to the 1862 colleges declined from 74% to 71%. In individual states, the situation is often much worse (and only occasionally better). In Texas, for example, the per capita share of the 1890 college (Prairie View) was only about 28% of that of the 1862 college (Texas A & M) in fiscal 1971.

Third, as unequal as the state aid to black and white land-grant colleges tends to be, Federal grants-in-aid are far more unequal and the gap is steadily widening. According to the Commission's figures, per capita Federal grants to the white and black land-grant colleges in the dual system states were $705 and $352, respectively, for fiscal 1968; and $710 and $310, respectively, for fiscal 1970. Thus, the per capita amount going to the 1890 colleges as a proportion of that going to their white counterparts declined during the period from about 50% to 44%. Moreover, as these figures show, the per capita Federal grants to the 1890 colleges actually declined during this period on an absolute, as well as a relative, basis. (Until recent years, the situation was even far worse. In 1964, according to USDA figures, per capita Federal aid to the black land-grant colleges was only $54, while that to their white counterparts was $522, for a ratio of almost 10 to 1.) If we add per capita Federal grants-in-aid and per capita state aid for operating expenses (figures are not available for state capital budget aid), we find a total assistance of $2,215 and $1,442 per student at the white and black land-grant colleges, respectively, in fiscal 1970, or a total dollar gap for per capita aid of over $36 million per year. The absolute difference between total Federal-state aid to the white and black land-grant colleges was a whopping $600 million in fiscal 1970.

The flagrant inequality of the Federal assistance to black land-grant colleges is nowhere more egregious than with respect to funds disbursed through the Department of Agriculture. Indeed, the Department of Agriculture is the Federal agency perhaps most responsible for the persistence of the separate and unequal status of the black land-grant colleges, and their consequent inability to adequately serve the rural constituency that has traditionally had to look to these colleges alone for help--the black farmer, the poor farmer, the migrant farmer, the farmworker, and the rural poor. According to the National Science Foundation, USDA in fiscal 1970 accounted for approximately one-third of the Federal funds going to the 1862 and 1890 institutions in the dual system states. Yet of the approximately $76,800,000 in USDA funds allocated to these schools, about 99.5% went to the sixteen white land-grant colleges; the 1890 colleges received a grant total of $383,000 (or 0.5%). In short, the white institutions received about 200 times what the black institutions received. Even on a per capita basis, the white schools received about 35 times what the black schools received.

The land-grant college system is built around three characteristically land-grant activities--resident instruction, agricultural extension and agricultural research. Two of them--agricultural extension and agricultural research--are supported by USDA and state matching funds. (The third, resident instruction, is supported at the Federal level mainly by HEW.)

The Cooperative Extension Service of USDA was established by the Smith-Lever Act of 1914. The Act provides that where a state has two land-grant colleges, the appropriations for extension work "shall be administered by such college or colleges as the [state] legislature . . . may direct." Senator Smith of Georgia, author of the Act, made the purpose of this provision crystal clear: "We do not . . . want the fund if it goes to any but the white college." His purpose has been admirably served--in each of the states in which white and black land-grant colleges exist, the state legislature has directed that all Federal extension funds go to the 1862 college, and USDA has complied. In fiscal 1972, this came to about $66 million.

USDA also provides funds to state agricultural experiment stations established under the Hatch Act of 1887 to conduct agricultural research under the direction of land-grant colleges. The Hatch Act also provides that the research appropriations in states with two such colleges are divided "as the legislature of such State shall direct." And the McIntyre-Stennis Act of 1962 permits the Governor of each state to designate the recipient of Federal funds for forestry research. As in the case of Extension funds, each state has designated the 1862 college as the parent of the experiment station and as the sole recipient of Hatch and McIntyre-Stennis research funds. Thus, in fiscal 1972, all $26,091,202 appropriated by Congress for agricultural and forestry research at the state experiment stations went to 1862 colleges; the 1890 colleges received nothing.

These functions--agricultural extension and agricultural research--are absolutely critical to the ability of a land-grant college to attract and retain talented faculty and students, to keep abreast of the fast-changing developments in modern agricultural technology and education, and to adequately reach and serve the needier elements in rural America. And extension, in particular, is the crucial link between the small farmer and access to other USDA programs, such as credit and subsidies. Yet USDA has in effect barred the black land-grant colleges from exercising those vital functions.

USDA officials invariably seek to justify this policy on two grounds. First, they contend, the black land-grant colleges lack the same research and extension capabilities as their white counterparts. While this is obviously (and circularly) true, USDA and others recognize that the black land-grant colleges, notwithstanding their legacy of discrimination, possess certain very formidable strengths in these areas, strengths never fully exploited for lack of funds. For example, a joint USDA-National Association of State Universities and Land-Grant Colleges committee studying the extension service compiled an analysis of the 1890 colleges which showed very significant, but USDA-starved, capabilities in many research and extension areas, including nutrition, environmental quality, psychology, consumer education, rural development, community health, and outreach to the rural poor. The committee report conceded that the extension service had abandoned its original concern with the rural disadvantaged in favor of "an increased involvement with people in the middle- and upper-income levels." But the report omitted the critical analysis of USDA policy toward the black schools, concluding simply that the 1890 colleges "have a contribution to make to the efforts of Cooperative Extension."

And a 1967 study by the National Research Council of the National Academy of Science concluded that the research capabilities of these schools was considerable and should be adequately funded:

> [e]ach has elements of strength. Many staff members hold advanced degrees from first-class universities, are clearly interested in research, and are attempting to carry out significant studies in their chosen fields. These efforts are made despite very limited opportunities.
>
> Each of the Colleges has some first-quality buildings, laboratories, and land areas suited for research and which are available for studies well beyond the limits of projects now under way. The present situation represents inadequate utilization of both human and material sources . . . .

USDA responded to these glowing recommendations with a parsimony not evident in its generous subsidization of large corporate farms--it allocated a grand total of $283,000 for research to be divided among seventeen black colleges for fiscal 1968. Through fiscal 1970, this $283,000 research allocation had not been increased. In fiscal 1971, the allocation declined to $183,000. In contrast, the sixteen white schools in 1971 received almost $29 million for research under Hatch and McIntyre-Stennis. The short answer to USDA's inferiority argument, then, is that any research and extension capability gap that exists is the direct result of USDA's venerable policy of over 80 years legitimizing discriminatory non-support of these schools.

USDA's other justification--that it is the states, not USDA, which decide how USDA research and extension money will be spent--is more difficult but equally invalid. This issue, like most concerning the 1890 colleges, is part legal and part political. The Hatch and Smith-Lever Acts, which authorize USDA funding of research and extension activities at the state level, do permit each state to divide these funds between the white and black land-grant colleges as the state legislature directs. And each of the sixteen states has always designated the white college as the sole recipient of the USDA funds. It is also true, however, that both statutes include provisions requiring the withholding of all Federal research or extension funds from a state if any of these funds are "by any action or contingency . . . misapplied." An analogous provision is contained in the Second Morrill Act. And Federal officials, on a number of occasions, have actually withheld funds under each of these statutes. In some of these instances, political manipulation of the funds was the reason, while in others, the state seemed to be using the funds poorly. Yet USDA has never withheld funds under these statutes because of a state's racial discrimination or denial of equal protection of the laws.

The Civil Rights Act of 1964 sought to put the enormous potential political influence represented by Federal assistance programs at the service of racial justice. Title VI of that Act provides that "no person . . . shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance." In addition, the Act requires that each Federal agency promulgate regulations implementing Title VI and providing for the withholding of Federal assistance in the event of failure to comply with these regulations.

USDA issued its Title VI regulations in 1964 and has consistently failed to enforce them ever since. For example, USDA issued regulations barring discrimination in the distribution of the benefits of Federally-funded state extension activities. All state extension services operate with substantial Federal funds ($149,488,000 in fiscal 1972, constituting about 42% of all extension funds) and virtually no Federal controls or guidelines. The result has been, predictably enough, racist extension services in some southern states. Up to 1965, eleven years after "separate but equal" was overthrown, the extension services were formally segregated and still unequal, with white agents based at the white schools serving only white farmers, and black agents based at the black schools serving only black farmers. All top administrative posts were held by whites, blacks supervised only other blacks, and all other aspects of the services were rigidly segregated. In 1965, after a series of very critical reports on civil rights compliance of the Extension Service by the Civil Rights Commission and USDA's own Office of Inspector General, Secretary Freeman finally ordered the merger of the segregated extension services in each state. The result was that virtually all extension activities were thereafter based at the white campuses, many black extension personnel lost their jobs, and those that remained in their jobs were routinely demoted in favor of their white counterparts. A new round of investigations by the OIG in 1969 (never made public by USDA) and the Civil Rights Commission in 1970 and 1971 disclosed that little progress has been made. Indeed, the Civil Rights Commission in November, 1971 stated:

> Improvements in the overall DOA Title VI program have been undermined by the grossly inadequate performance of the Extension Service, an agency whose program is fundamental to other agricultural programs. The Extension Service has consistently failed to discharge its Title VI responsibility to take forceful corrective action against non-complying recipients. Specifically, the Extension

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> Service compliance program has been marked by unparalleled procrastination in dealing with the numberous State Extension Services which have failed even to file acceptable Title VI assurances. Seven years after the enactment of the Civil Rights Act of 1964, these noncomplying recipients continue to receive financial assistance from DOA.

In addition, lawsuits have been brought by private plaintiffs against the Mississippi, Alabama, and North Carolina extension services alleging flagrant violations of the civil rights laws. On September 1, 1971, U.S. District Judge Frank Johnson ruled in favor of the plaintiffs in the Alabama action. In an exhaustive opinion which assiduously details the systematic racial discrimination still practiced by the extension service at Auburn University (the white land-grant college in Alabama), Judge Johnson felt it necessary to issue an unusual decree:

> The racial discrimination in this case has so permeated the employment practices and services distribution of the [Alabama extension service] that this Court finds it necessary to enter a detailed and specific decree which will not only prohibit discrimination but which will also prescribe procedures designed to prevent discrimination in the future and to correct the effects of past discrimination.

Yet despite the well-known illegal practices described in such grim detail by Judge Johnson, and despite the clear language of Title VI and USDA's regulations thereunder, USDA has never made the slightest move to withhold any funds for these violations.

What then of USDA enforcement of Title VI against the states which allocate all USDA extension and research funds to the white land-grant colleges, with none to the black? Recent Supreme Court decisions in areas as disparate as education, housing, and employment require states to affirmatively overcome the effects of past segregation, as well as avoiding it in the future. Yet every indication suggests that USDA will continue its refusal to enforce the law against states discriminating in the allocation of USDA funds.

This is not to say that the Nixon Administration has been wholly indifferent to the plight of the black land-grant colleges. Secretary of Agriculture Hardin, evidencing far greater courage than his Democratic predecessor in this politically sensitive area, accepted a proposed allocation of about $4 million for the 1890 colleges in the 1972 budget for extension and research, and then accepted an amendment by Congressman Frank Evans (D.-Colo.), increasing this allocation to $12.6 million ($4 million for extension, $8.6 million for research), mostly under Public Law 89-106, a 1965 law permitting USDA to grant research funds directly to institutions. The 1973 appropriation is still pending in Congress.

While this is certainly a welcome development, several critical questions remain to be answered. First, more than half of this money was, by statute, specifically place in "reserve." These reserves have now been released, but only after some pressure by outsiders.

Second, USDA required that these new funds be administered in such a way that the white land-grant colleges control the project approval process. There is some evidence that the project proposals submitted by the black land-grant colleges are subjected to more stringent standards and procedures than those submitted by the 1862 colleges. In the case of the $8.6 million in research funds, these requirements, cloaked in the guise of "coordination," violate both the spirit and the letter of the authorizing and appropriating legislation.

Third, this new fund is small, relative to the need, and must be extracted year after year from a House Appropriations Subcommittee chaired by Jamie Whitten of Mississippi, not generally considered a spokesman for black causes.

Finally, this money leaves utterly unchanged the venerable system whereby the basic, substantial, and essentially permanent programs of southern agricultural research and education remain firmly and exclusively in the hands of the white land-grant colleges, colleges which have concerned themselves largely with the promotion of agricultural technology and the interests of the larger white, relatively prosperous farmers.

So separate and unequal continues in the world of southern agriculture, aided and abetted by anachronistic and unenforced laws and an agricultural bureaucracy which only dimly realizes what its policies have wrought in rural and urban poverty, the decline of the family farm in the face of corporate and conglomerate incursions into agriculture, and the devastation of the black farmer. One can only hope that it is not too late for the "people's Department" to recover its constituency.

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BLACK LAND-GRANT COLLEGES: SEPARATE AND STILL UNEQUAL

by

Peter H. Schuck

Over 50,000 black students (one out of every nine black collegians in the U.S.) attend a most unique group of institutions of higher learning--the black land-grant colleges. They are unique in terms of their historical roots, their student bodies, their educational mission and accomplishments, and their legal and political status. But what distinguishes them most dramatically from other public colleges is the shockingly discriminatory treatment which they have long received at the hands of the states and the Federal Government, and particularly the U.S. Department of Agriculture, established by President Lincoln in 1862 as the "people's Department."

The 16 black land-grant colleges, all located in the South and border states, are a diverse group. The largest, Southern University A&M College in Baton Rouge, Louisiana, has an enrollment of 11,753, while Delaware State College enrolls barely over 1,000 students. Lincoln University in Missouri and Alcorn A&M in Mississippi are over a century old, while Fort Valley State College in Georgia and Prairie View A&M College in Texas were established as land-grant colleges only in 1947. They also differ enormously in terms of curriculum, tradition, intellectual attainment, and academic focus. But for all their differences, certain similarities are particularly striking.

Each of the black land-grant colleges was spawned as part and parcel of a system of legally-sanctioned segregation. The Morrill Act of 1862, which sought to democratize American higher education by instructing "the industrial classes in the several pursuits and professions of life", was little comfort for blacks. The vast majority were slaves at this time, and the "land-grant colleges" newly established in the southern and border states with Morrill funds were white preserves, barred by custom (and later by law) from admitting blacks, be they slaves or free men. In 1890, Congress enacted the Second Morrill Act which increased Federal assistance to these colleges and also authorized the creation of the black land-grant colleges. The Act provided that no college assisted under the Act could make racial distinctions in the admission of students, but that the establishment of *separate* colleges for whites and blacks would be a compliance with this requirement if the Morrill were "equitably divided."

Seventeen southern and border states implemented the 1890 Act by establishing separate land-grant colleges for blacks. These "Colleges of 1890" have, along with the other black public colleges, traditionally been the major route by which black students could gain an inexpensive college education and entry into the professions. What is more important, these colleges, along with the other predominantly black colleges, will for the foreseeable future remain the best hope for a college-trained black middle class, particularly in the South. Of the 470,000 blacks enrolled in college in 1970, 36% attended predominantly black colleges, over a third of these in the black land-grant institutions. In the South, these proportions are far higher.

What is more important, the black land-grant institutions educate a very significant share of the college students from low-income families. According to the Southern Regional Education Board, only 7% of the nation's collegians are drawn from low-income families. The percentage of blacks in this group is inordinately high. According to the Carnegie Commission for Higher Education, the average family income of 37.6% of black students entering black colleges in 1968 was under $4,000. Yet the black land-grant colleges, as well as the predominantly black colleges, generally have, in the Commission's words, had "remarkable" success in training such "high risk" students.

Despite this longstanding record of success where other colleges have failed--perhaps due to the fact that 93% of the budgets of the 1890 institutions is devoted to teaching--the continued viability of the 1890 colleges (and other black public colleges) is endangered by two major threats: formal integration and continued segregation. As John Edgerton has documented in his recent "Black Public Colleges: Integration and Disintegration," integration of public higher education in the South has increasingly meant the destruction of the black public institutions and with them, the only hope of tens of thousands of blacks for a college education. Several of the

1890 colleges, including West Virginia State College and Lincoln University, are now predominantly white. In many other states, including Tennessee, Florida, and Virginia, another pattern is becoming all too clear. These states have moved to establish new, competitive, predominantly white (and only nominally integrated) college facilities close to the black colleges or to upgrade existing ones nearby. In either case, the result is the same: the black college finds it impossible to hold its white students and increasingly difficult to attract the most talented blacks. Lawsuits challenging the legality of these practices have been filed in several states.

As the plaintiffs in these cases argued, and as Edgerton shows, this form of "integration", as with so any others, may well end with blacks paying a terrible price: not simply the reduction of black student and faculty enrollment, but the destruction of extremely serviceable institutions uniquely capable of fulfilling the educational and social mobility needs of black Americans.

But destruction through "integration" is only one threat to the 1890 colleges. Destruction through segregation is another. To be sure, the land-grant colleges, like all public colleges, are nominally integrated, and the black colleges slightly more than the white. According to HEW's Office of Civil Rights, the white land-grant colleges in dual system states are about 5% black, while the 1890 colleges are about 7% white.

Nevertheless, the funding patterns of the white and black land-grant colleges confirm what the law denies: inequality and segregation are alive and quite well in the land-grant college system. An examination of these patterns reveals a number of suggestive facts. First, the 1890 institutions receive very little revenue from private sources. And the Ford Foundation's newly-announced $100 million program of assistance to black colleges applies only to private colleges and will not affect these public institutions.

Second, the state appropriations for the white and black land-grant colleges in the same state for operating expenses are, even on a per capita basis, both unequal and increasingly so. State appropriations to the white and black land-grant colleges on a per capita basis during fiscal 1970 were $1,585 and $1,180, respectively. In fiscal 1971, the corresponding figures were $1,763 and $1,260, respectively. Thus, while per capita state appropriations increased for both groups of schools, the amount going to the 1890 colleges as a proportion of that going to the 1862 colleges declined from 74% to 71%. In individual states, the situation is often much worse (and only occasionally better). In Texas, for example, the per capita share of the 1890 college (Prairie View) was only about 28% of that of the 1862 college (Texas A&M) in fiscal 1971.

Third, as unequal as the state aid to black and white land-grant colleges tends to be, federal grants-in-aid are far more unequal and the gap is steadily widening. Between fiscal 1968 and 1970, the per capita amount going to the 1890 colleges declined both absolutely (from $352 to $310) and as a proportion of that going to their white counterparts (from about 50% to 44%). If we add per capita federal grants-in-aid and per capita state aid for operating expenses (figures are not available for state capital budget aid), we find a total assistance of $2,215 and $1,442 per student at the white and black land-grant colleges, respectively, in fiscal 1970, or a total dollar gap for per capita aid of over $36 million per year. The absolute difference between total federal-state aid to the white and black land-grant colleges was a whopping $600 million in fiscal 1970, and that gap is also growing each year.

The flagrant inequality of the federal assistance to black land-grant colleges is nowhere more egregious than with respect to funds disbursed through the Department of Agriculture. Indeed, the Department of Agriculture is the federal agency perhaps most responsible for the persistence of the separate and unequal status of the black land-grant colleges, and their consequent inability to adequately serve their students and faculty, and the rural constituency that has traditionally had to look to these colleges alone for help--the black farmer, the poor farmer, the migrant farmer, the farmworker, and the rural poor generally.

USDA in fiscal 1970 accounted for approximately one-third of the federal funds going to the 1862 and 1890 institutions in the dual system states. Yet of the approximately $76,800,000 in USDA funds allocated to these schools, about 99.5% went to the sixteen white land-grant colleges; the 1890 colleges received a grant total of $383,000 (or 0.5%). In short, the white institutions received about 200 times what the black institutions received. Even on a per capita basis, the white schools received about 35 times what the black schools received.

The land-grant college system is built around three characteristically land-grant activities--resident instruction, agricultural extension and agricultural research. Two of them--agricultural extension and agricultural research--are supported by USDA and state matching funds. (The third, resident instruction, is supported at the federal level mainly by HEW.)

The Cooperative Extension Service of USDA, established by the Smith-Lever Act of 1914, provides funds to extension services at the land-grant colleges in each state, and nourished the politically potent county agent system which grew up in 19th century America. The Act provides that where a state has separate land-grant colleges, the USDA appropriations for extension work shall be divided "as the [state] legislature . . . may direct." Senator Smith of Georgia, author of the Act, made the purpose of this provision crystal clear: "We do not . . . want the fund if it goes to any but the white college." His purpose has been admirably served--in each of the states in which white and black land-grant colleges exist, the state legislature has directed that all federal extension funds go to the 1862 college. USDA has complied.

USDA also provides funds to state agricultural experiment stations established under the Hatch Act of 1887 to conduct agricultural research under the direction of land-grant colleges. As with extension funds, USDA appropriations for research in states with two such colleges are divided "as the legislature of such State shall direct." Likewise, the McIntyre-Stennis Act of 1962 permits the Governor of each state to designate the recipient of federal funds for forestry research. As in the case of extension funds, each state has designated the 1862 college as the parent of the experiment station and as the sole recipient of Hatch and McIntyre-Stennis research funds. Thus, in fiscal 1971, all $28,883,229 appropriated by Congress for agricultural and forestry research at the state experiment stations went to 1862 colleges; the 1890 colleges received nothing.

These functions--agricultural extension and agricultural research--are absolutely critical to the ability of a land-grant college to attract and retain talented faculty and students, to keep abreast of the fast-changing developments in modern agricultural technology and education, and to adequately reach and serve the needier elements in rural America. And extension, in particular, is the crucial link between the small farmer and access to other USDA programs, such as credit and subsidies. Yet USDA has in effect barred the black land-grant colleges from exercising those vital functions.

USDA officials invariably seek to justify this policy on two grounds. First, they contend, the black land-grant colleges lack the same research and extension capabilities as their white counterparts. While this is obviously (and circularly) true, USDA and others recognize that the black land-grant colleges, notwithstanding their legacy of discrimination, possess certain very formidable strengths in these areas, strengths never fully exploited for lack of funds. For example, a joint USDA-National Association of State Universities and Land-Grant Colleges committee studying the extension service compiled an analysis of the 1890 colleges which showed very significant, but USDA-starved, capabilities in many research and extension areas, including nutrition, environmental quality, psychology, consumer education, rural development, community health, and outreach to the rural poor. The committee report conceded that the extension service had abandoned its original concern with the rural disadvantaged in favor of "an increased involvement with people in the middle- and upper-income levels." But the report omitted the critical analysis of USDA policy toward the black schools, concluding simply that the 1890 colleges "have a contribution to make to the efforts of Cooperative Extension."

And a 1967 study by the National Research Council of the National Academy of Science concluded that the research capabilities of these schools was considerable and should be adequately funded:

> [e]ach has elements of strength. Many staff members hold advanced degrees from first-class universities, are clearly interested in research, and are attempting to carry out significant studies in their chosen fields. These efforts are made despite very limited opportunities.
>
> Each of the Colleges has some first-quality buildings, laboratories, and land areas suited for research and which are available for studies well beyond the limits of projects now under way. The present situation represents inadequate utilization of both human and material sources . . . .

USDA responded to these glowing recommendations by allocating a grant total of $283,000 for research to be divided among seventeen black colleges for fiscal 1968. Through fiscal 1970, this allocation had not been increased, and in fiscal 1971, it declined to $183,000. In contrast, the sixteen white schools in 1971 received almost $29 million for research under Hatch and McIntyre-Stennis. Any research and extension capability gap that exists, then, is the direct result of USDA's 80 year-old policy legitimizing discriminatory non-support of these schools.

USDA's other justification--that it is the states, not USDA, which decide how USDA research and extension money will be spent--is more difficult but equally invalid. This issue, like most concerning the 1890 colleges, is part legal and part political. The Hatch and Smith-Lever Acts do permit each state to divide these funds between the white and black land-grant colleges as the state legislature directs. And each of the sixteen states has always designated the white college as the sole recipient of the USDA funds. It is also true, however, that both statutes include provisions requiring the withholding of all research or extension funds from a state if any of the research or extension funds received by the state are "misapplied." And federal officials, on a number of occasions, have actually withheld funds under each of these statutes. In some of these instances, political manipulation of the funds was the reason, while in others, the state seemed to be using the funds poorly. Yet USDA has never withheld funds under these statutes because of a state's racial discrimination or denial of equal protection of the laws.

The Civil Rights Act of 1964 sought to put the enormous potential political influence represented by Federal assistance programs at the service of racial justice. Title VI of that Act provides that "no person . . . shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance." In addition, the Act requires that each Federal agency promulgate regulations implementing Title VI and providing for the withholding of federal assistance in the event of failure to comply with these regulations.

USDA issued its Title VI regulations in 1964 and has consistently failed to enforce them ever since. For example, USDA issued regulations barring discrimination in the distribution of the benefits of Federally-funded state extension activities.

state extension services operate with substantial federal funds (over $138 million in fiscal 1971, constituting about 42% of all extension funds) and virtually no federal controls or guidelines. The result has been, predictably enough, racist extension services in some southern states. In 1965, eleven years after "separate but equal" was overthrown, the extension services were formally segregated and still unequal, with white agents based at the white schools serving only white farmers, and black agents based at the black schools serving only black farmers. All top administrative posts were held by whites, blacks supervised only other blacks, and all other aspects of the services were rigidly segregated. In 1965, after a series of very critical reports on civil rights compliance of the Extension Service by the Civil Rights Commission and USDA's own Office of Inspector General, Secretary Freeman finally ordered the merger of the segregated extension services in each state. The result was that virtually all extension activities were thereafter based at the white campuses, many black extension personnel lost their jobs, and those that remained in their jobs were almost always demoted in favor of their white counterparts. A new round of investigations by the OIG in 1969 and the Civil Rights Commission in 1970 and 1971 disclosed that little progress has been made. Indeed, the Civil Rights Commission in November, 1971 stated:

> Improvements in the overall DOA Title VI program have been undermined by the grossly inadequate performance of the Extension Service, an agency whose program is fundamental to other agricultural programs. The Extension Service has consistently failed to discharge its Title VI responsibility to take forceful corrective

> action against non-complying recipients. Specifically, the Extension Service compliance program has been marked by unparalleled procrastination in dealing with the numerous State Extension Services which have failed even to file acceptable Title VI assurances. Seven years after the enactment of the Civil Rights Act of 1964, these noncomplying recipients continue to receive financial assistance from DOA.

In addition, private lawsuits have been brought against the Mississippi and Alabama extension services alleging flagrant violations of the civil rights laws. On September 1, 1971, U.S. District Judge Frank Johnson ruled in favor of the plaintiffs in the Alabama action. In an exhaustive opinion which assiduously details the systematic racial discrimination still practiced by the extension service at Auburn University (the white land-grant college in Alabama), Judge Johnson felt it necessary to issue an unusual decree:

> The racial discrimination in this case has so permeated the employment practices and services distribution of the [Alabama extension service] that this Court finds it necessary to enter a detailed and specific decree which will not only prohibit discrimination but which will also prescribe procedures designed to prevent discrimination in the future and to correct the effects of past discrimination.

Yet despite the well-known illegal practices described in such grim detail by Judge Johnson, and despite the clear language of Title VI and USDA's regulations, USDA has never made the slightest move to withhold any funds for these violations.

What then of USDA enforcement of Title VI against the states which allocate all USDA extension and research funds to the white land-grant colleges, with none to the black? Recent Supreme

Court decisions in areas as disparate as education, housing, and employment require states to affirmatively overcome the effects of past segregation, as well as avoiding it in the future. Yet every indication suggests that USDA will continue its refusal to enforce the law against states discriminating in the allocation of USDA funds.

This is not to say that the Nixon Administration has been wholly indifferent to the plight of the black land-grant colleges. Secretary of Agriculture Hardin, evidencing far greater courage than his Democratic predecessor in this politically sensitive area, accepted a proposed allocation of about $4 million for the 1890 colleges in the 1972 budget for extension and research, and then accepted an amendment by Congressman Frank Evans (D.-Colo.), increasing this allocation to $12.6 million ($4 million for extension, $8.6 million for research), mostly under a 1965 law permitting USDA to grant research funds directly to institutions.

While this is certainly a welcome development, several critical questions remain to be answered. First, more than half of this money has, by statute, specifically been placed in "reserve." The fate of these reserves is undecided.

Second, USDA is requiring that these new funds be administered in such a way that (a) the white land-grant colleges control the project approval process, and (b) the project proposals submitted by the black land-grant colleges are subjected to far more stringent standards and procedures than those of the 1862 colleges. In the case of the $8.6 million in research funds, these requirements, cloaked in the guise of "coordination", violate both the spirit and the letter of the authorizing and appropriating legislation.

Third, this new fund is small, relative to the need, and must be extracted year after year from a House Appropriations Subcommittee chaired by Jamie Whitten of Mississippi, not generally considered a spokesman for black causes.

Finally, this money leaves utterly unchanged the venerable system whereby the basic, substantial, and essentially permanent programs of southern agricultural research and education remain firmly and exclusively in the hands of the white land-grant colleges, colleges which have concerned themselves largely with the promotion of agricultural technology and the interests of white, relatively prosperous farmers.

So separate and unequal continues in the world of southern education, aided and abetted by anachronistic and unenforced laws and an agricultural bureaucracy which only dimly realizes what its policies have wrought in rural and urban poverty, the decline of the family farm, and the devastation of the black farmer. One can only hope that it is not too late for the "people's Department" to recover the neediest portion of its constituency.

DEPARTMENT OF AGRICULTURE
OFFICE OF THE SECRETARY
WASHINGTON, D. C. 20250

December 20, 1971

Mr. Peter H. Schuck
Center for Study of Responsive Law
Post Office Box 19367
Washington, D. C. 20036

Dear Mr. Schuck:

The Cooperative State Research Service has the responsibility for meeting the intent of the Congress and is coordinating the allocation of research funds for programs to prevent duplication and to strengthen programs of mutual concern between State institutions. We completely disagree with your conclusion that coordination "may really mean subordination of the 1890 Colleges in the use of funds intended to go directly to them." This is not the intent and it will not be permitted. Funds allocated to the 1890 Institutions and Tuskegee are made directly to them for programs on which they have elected to conduct research.

You refer to paragraph 2 of page 3 of your letter of October 14. You apparently have been misinformed regarding procedures for dealing with 1862 Institutions. Such procedures are not as you have indicated. Special grants under Public Law 89-106 for the 1862 Institutions are awarded under a much more competitive and restrictive basis than for the 1890 Institutions. Funds under the Hatch Act are available to the agricultural experiment stations on a formula basis, but money cannot be spent until projects are reviewed and approved by the Cooperative State Research Service. In fact, a number of station directors feel our administration of the Hatch Act is unduly restrictive. What we are really saying is that neither the Hatch Act program nor the P.L. 89-106 program is a give-away program. We expect, as does the Congress, that the funds will be spent wisely and for the purpose intended -- sound and productive agricultural research.

It is my understanding that you have spent considerable time in familiarizing yourself with the Cooperative State Research Service procedures and staff during the past few months. I am sure the staff will be willing to spend whatever additional time is necessary in order to give you a clearer picture of the way they operate.

Sincerely,

N. P. RALSTON
Associate Director
Science and Education

CENTER FOR STUDY OF RESPONSIVE LAW
P. O. BOX 19367
WASHINGTON, D. C. 20036

November 30, 1971

Dr. N. P. Ralston
Associate Director, Science and Education
U. S. Department of Agriculture
Washington, D. C. 20250

Dear Dr. Ralston:

Thank you for your letter of November 22.

Your assurances concerning the administration of Public Law 89-106 funds to the 1890 Colleges and Tuskegee are certainly welcome. Yet they do not really respond to the serious issues which I raised in my letter of October 14 to Secretary Hardin.

As my letter clearly indicated, I am well aware that all CSRS funds to the 1890 Colleges are appropriated and administered under P.L. 89-106. Indeed, the very point of the letter was to show that the legislative history concerning the allocation of P.L. 89-106 funds to the 1890 Colleges clearly indicates Congress' intent that the funds go directly to the 1890 Colleges rather than have to run the gauntlet of a "Research Coordinating Committee" dominated by the experiment station directors at the 1862 Colleges. P.L. 89-106, unlike the Hatch Act, authorizes grants directly to the colleges, as Congress was well aware in selecting P.L. 89-106 as the funding vehicle.

Your assertion that "the funds are being provided directly to the Land Grant 1890 institutions . . ." is not correct. The Research Coordinating Committees are more than simply "a means for the Colleges of 1890 to become acquainted in detail with agricultural research programs already underway in their state" (your letter, p. 2). The October 4 guidelines require RCC "concurrence" for 1890 College research proposals, even where such proposals have been approved by the Research Coordinator at the 1890 College. Given the domination of these committees by representatives of the 1862 Colleges, decisions taken by RCC's under the guise of "coordination" may really mean subordination of the 1890 Colleges in the use of funds intended to go directly to them.

Finally, your letter fails to deal with the major issue that I raised--the disparity in procedures applicable in practice to the 1862 and 1890 Colleges. Rather than belabor the point, I refer you to the second paragraph of page 3 of my letter. While it is true that the Research Project is CSRS's "basic funding instrument" for both the 1862 and 1890 Colleges, the administrative procedures governing the preparation and approval of this instrument are not the same for both groups of institutions; those applicable to the 1890 Colleges are far more onerous. This fact is far more significant than any formal similarity in the instruments themselves.

Sincerely,

Peter H. Schuck

PHS:cpr

cc: Congressman Mark Andrews
Congresswoman Shirley Chisholm
Congressman Ron Dellums
Dr. R. L. Lovvorn
Senator Adlai Stevenson III
Honorable Frank Evans
Dr. John Sullivan

DEPARTMENT OF AGRICULTURE
OFFICE OF THE SECRETARY
WASHINGTON, D. C. 20250

NOV 22 1971

Mr. Peter H. Schuck
Center For Study of Responsive Law
Post Office Box 19367
Washington, D. C. 20036

Dear Mr. Schuck:

Reference is made to your letter of October 14, 1971, addressed to Secretary Hardin.

The Department of Agriculture was pleased to support the Congress in their appropriation of $8,883,000 for agricultural research in the 1890 Land Grant Colleges and Tuskegee Institute. These institutions will be enabled to become substantial partners with the Department of Agriculture, the State agricultural experiment stations, and the cooperating schools of forestry to serve the agricultural and rural resource needs of the nation and component States through research.

Your letter indicates some apparent confusion between our program for the Land Grant 1890 institutions and those programs administered in Cooperative State Research Service that are funded under other legislative authorities. I wish to clarify that all Cooperative State Research Service funds to the Land Grant 1890 Institutions and Tuskegee are appropriated and administered under the authority of Public Law 89-106.

I wish to assure you that the research funds provided under Public Law 89-106 for the Land Grant 1890 Colleges and Tuskegee Institute are being administered by the Cooperative State Research Service in a manner that is fully responsive to the intent of Congress, that recognizes the needs and academic goals of the Colleges of 1890 and Tuskegee, and that is in accord with the assurances made to the Congress by the Cooperative State Research Service. The funds are being provided directly to the Land Grant 1890 institutions with the exception noted in paragraph 3, page 2, of your letter. The research to be funded is selected by the Colleges of 1890 and Tuskegee, and the requirements for documentation and for coordination within the State have been developed with the knowledge and participation of administrators and scientists of the 1890 institutions.

The individual state Research Coordination Committees have provided a means for the Colleges of 1890 to become acquainted in detail with agricultural research programs already underway in their state. In addition, the Committee furnishes a structure through which the two state institutions (three in Alabama) can mutually explore ways they can work together and separately to best serve the needs of the citizens of their State. The degree of coordination and cooperation that has been achieved to date has resulted in strong research proposals that will have a high probability of success.

Page three of your letter indeed describes a lengthy procedure for submission of programs. Permit me to clarify the four requests. The first set of documents, varying from one paragraph to several pages, was submitted by the College Presidents and was intended to be illustrative of the kinds of research that the schools might undertake. On the basis of this documentation, CSRS prepared its presentation to the Congressional committees. The second set of documents was requested of the Research Coordinators in anticipation of funding at the Executive Budget level, $2,283,000. We could not and would not wish to hold the Colleges Presidents to the "programs" expressed in the first submissions. These were written on very short notice, were in general terms, and were never intended as complete and specific program proposals. It would be a disservice to the 1890 institutions to consider these as anything other than a broad statement of capabilities. It is significant that in no case were the second proposals in the same area of research as the first documents.

In the midst of this "program" planning, the appropriation level was increased to a total of $8,883,000. This precipitated what you called our third submission. In reality, this is simply an expansion of the second set of documents in order to accommodate almost four times the amount of money involved.

The fourth documentation is nothing more than Research Projects that outline specific scientific activities designed to achieve the "program" objectives. Research projects are the instruments on which funds are transmitted to the institutions and, eventually, on which funds are expended. Accounting procedures are required that show expenditures in relation to specific approved projects. Thus, the Research Project is the basic funding instrument utilized by the Cooperative State Research Service not only for the Land Grant 1890 institutions and Tuskegee but also for the State agricultural experiment stations and cooperating schools of forestry.

We share your concern for the autonomy of these institutions. The Cooperative State Research Service has devoted its full resources to assist the Colleges of 1890 and Tuskegee in the development of strong research programs. We shall continue to provide the kinds of guidance and support which will enable these institutions to achieve their full research potential.

Sincerely,

N. P. Ralston

N. P. RALSTON
Associate Director
Science and Education

cc: Honorable Mark Andrews
Honorable Shirley Chisolm
Honorable Ron Dellums
Honorable Adlai Stevenson III
Honorable Frank Evans

CENTER FOR STUDY OF RESPONSIVE LAW
P. O. BOX 19367
WASHINGTON, D. C. 20036

October 14, 1971

Honorable Clifford M. Hardin, Secretary
U.S. Department of Agriculture
Washington, DC.

Dear Secretary Hardin:

It has come to my attention that the Cooperative State Research Service (CSRS) of USDA is administering the $8.6 million appropriated for fiscal 1972 under Public Law 89-106 (7 U.S.C. 450i) for the colleges of 1890 in a manner that is contrary both to the intent of Congress and to the assurances made by CSRS personnel to the House appropriations subcommittee in the spring hearings.

P.L. 89-106 was intended, in part, to enable USDA to fund agricultural research through instrumentalities other than the agricultural experiment stations. The law, reflecting this intent, authorizes USDA to make grants directly to colleges and other research institutions, as well as to the stations. Under this authority, CSRS has since 1968 granted research funds directly to the 1890 colleges and Tuskegee. And under this authority, Congress appropriated for fiscal 1972 an additional $8.6 million for agricultural research at these colleges.

The remarks of Congressman Frank Evans of Colorado on the floor of the House explaining the increased appropriations for the 1890 colleges make it perfectly clear that these new funds were intended to go directly to the 1890 colleges to augment their long-starved research capabilities (Cong. Record, June 23, 1971, H.5752-53). The House Report and the Senate Report accompanying the appropriations bill (H.R. 9270) confirm this intention, as do the statements and testimony of Congressman Hull (Cong. Record, June 30, 1971, E6748), Congressman Fulton (House Appropriation Subcommittee hearings, pp. 156-57) and Congressman Anderson (same hearings, pp. 153-54).

In the Appropriations subcommittee hearings (pp. 573-374), Congressman Evans asked Dr. Lovvorn how the new P.L. 89-106 money for the 1890 colleges was going to be administered. Dr. Lovvorn responded: "They would be administered in much the same way as we have been administering the $283,000 [the P.L. 89-106 funds formerly allocated to the 1890 colleges]." Congressman Evans then asked what was being done to ensure that these colleges could handle the research funds. Responding to this question, Dr. Lovvorn and Dr. Sullivan spoke of such coordinative devices as "consultation" and "meetings" between representatives from the experiment stations, the 1890 colleges, and CSRS.

Later on, Congressman Evans asked how CSRS parceled out grants and contracts under P.L. 89-106. Dr. Lovvorn responded by outlining the procedures for receiving and funding research proposals from the experiment station directors, and stated "The proposals from the 1890 colleges are handled in the same way." (p. 577)

I have briefly summarized the legislative history concerning the allocation of P.L. 89-106 funds to the 1890 colleges because it manifests an unambiguous intention on the part of the Congress that (1)these funds go directly to the 1890 colleges, (2) CSRS administer these funds in the same way that it administers grants to the 1862 institutions, and (3) the autonomy and strengthening of the 1890 colleges not be compromised at the state level in the guise of "coordination" with the 1862 colleges. CSRS, in administering these new funds, appears to be flagrantly violating these principles and this intention.

In mid-July, I and an associate met with the administrator of this program, Dr. John D. Sullivan. According to both of our notes of that meeting, Dr. Sullivan stated unequivocally that, with the exception of Prairie View A&M College (which had designated the SAES director as the recipient of the funds), the $8.6 million under P.L. 89-106 would go "directly" to the 1890 colleges. He also stated that the guidelines applicable to the 1890 colleges would be no more stringent than those applicable to the 1862 colleges, and that the autonomy and independence of the former would not be impaired.

The CSRS guidelines dated October 4, 1971 make a mockery of these assurances. The core of the new procedure is a "research coordinating committee". Obviously, no responsible person can be against the coordination of research, and the 1890 colleges are no exception. But the RCC, as established by the CSRS guidelines, is less a device for coordinating research between autonomous institutions than an instrument for the effective control by the 1862 colleges of the research funds intended by Congress for the 1890 colleges.

There is no warrent in P.L. 89-106 for the RCC procedure; indeed, until this year's large increase in research funds for the 1890 colleges, no RCC procedure even existed, nor have the white schools ever been subjected to such a procedure. It is significant that research proposals from the SAES need not go through the RCC or obtain its concurrence, yet RCC "concurrence" is required for 1890 research proposals. And this requirement applies even where a project or program has been approved by the 1890 Research Coordinator. The membership of the RCC is such that in every case, the 1890 college is in the minority. Thus the RCC procedure, discriminatory in its function and application, is rendered doubly obnoxious to the intent of Congress that the autonomy of the 1890 colleges be strengthened by the new money.

The RCC system is only part of a grant procedure that systematically discriminates against the 1890 colleges. I shall elaborate. Early this year, the 1890 colleges submitted program proposals for $8 million of research projects. In the spring, CSRS demanded that they make a second submission, a "definitive program proposal". The 1890 colleges complied. Now, the October 4 guidelines require a third "program" submission (step #5 on page 2 of the Guidelines) through the RCC. Even if these submissions obtain the concurrence of the RCC, yet a fourth submission, a "project outline", will be required by CSRS for each unit of work. And while the guidelines impose rigid deadlines for this fourth submission, funding authorization need not be forthcoming even at those late dates, for the guidelines impose no deadlines on CSRS for final approval, or even for reaction.

This incredibly lengthy procedure sharply contrasts with the simple, perfunctory procedure normally applicable to SAES research grants. In lieu of the detailed, painstakingly defined "research program" required of the 1890 applicant by the guidelines (see "Essentials of a Research Program"), the SAES director simply submits a list of project titles, dollar allocations as between the individual projects, and a general identification of research problem areas (which are standardized). No RCC must be consulted; he can and does develop his program pretty much the way he wants. CSRS simply acknowledges receipt of this submission. I am informed that CSRS virtually never demands a revision or resubmission. Then, the director submits a "project outline." The projects outlined are not very detailed and need not even conform to the project titles in the initial list; indeed, sometimes these projects are simply allocated to general research areas (e.g., nutrition) without even a project title. SAES projects are routinely approved on this basis. There are no submission deadlines other than the fiscal year. Virtually all projects are routinely approved, the remainder are approved after deferral. Outright rejection of a SAES project is almost unheard of.

The glaring contrast between these procedures, both in form and in substance, is striking, and it is not academic. I am informed that the original program proposals submitted by the 1890 colleges were more detailed than, and of at least equal quality to, the SAES programs routinely approved by CSRS. Yet they were not as detailed as the program essentials required under the new guidelines. And even now, a program proposal submitted by at least one 1890 college has been held up due to the RCC's withholding of its concurrence, although the substance of the proposal is apparently unexceptionable.

I could go on, but I think that the point should be clear. It is essential that this program be administered as the Congress intended, and that the encouraging first steps which you have taken to repair the wreckage of over 80 years of neglect will not prove to be a cruel delusion. I hope that you will give this matter the prompt personal involvement which its importance and sensitivity require.

Thank you for your attention.

Very truly yours,

Peter H Schuck

Peter H. Schuck

PHS/cjs

cc: Congressman Mark Andrews
Congresswoman Shirley Chisolm
Congressman Ron Dellums
Dr. R.L. Lovvorn
Senator Adlai Stevenson III
Honorable Frank Evans
Dr. John Sullivan

Senator **Stevenson**. What should the Congress do beyond the necessity of increasing appropriations for the 1890 institutions? The Congress has already made part of our law title VI of the Civil Rights Act, but you say that is being disregarded.

Mr. **Schuck**. There are a number of things.

First of all I think it is a travesty that since Congress passed the title VI of the Civil Rights Act of 1964, it has never held hearings, oversight hearings on the extent of compliance by Federal agencies with title VI. If such hearings were held (and they are not scheduled as of now, and have not been held for 8 years), I have no doubts, if they held such hearings that some of the most appalling information would come to your attention which suggests the kind of discrimination that has continued to this day by Federal agencies.

The Congress could look into that, and particularly USDA, which is probably—which probably has the worst civil rights record of any agency in the Federal Government.

A second thing that the Congress could do would be to hold oversight hearings on the way in which USDA has complied with this requirement to withhold funds—without extension and experimentation of funds from those institutions which have misapplied them.

The laws are on the books. The question is whether they are to be enforced and the Congress has not taken the steps necessary to see that they are enforced.

In addition, it would be very simple I think to amend both the Hatch and Smith-Lever Acts to require that the decision as to funding be made not by the States, but by the Secretary of Agriculture or by a body which include representation of all elements of the constituencies to be served by this money.

It is, I think, appalling that the Congress has permitted States to discriminate over 100 years now with the Federal funds, to permit those States to continue, in the name of federalism, to squander those funds, discriminate with those funds and to worsen the situation which those funds were designed to rectify.

Senator **Stevenson**. The States are subject to title VI, are they not?

Mr. **Schuck**. Yes.

Senator **Stevenson**. Has any effort been made that you know of to persuade the States to comply with title VI?

Mr. **Schuck**. None whatsoever.

In the case of the Department of Agriculture, as I say, not one hearing, not one title VI hearing has been held to look toward the cutoff of extension funds or Hatch funds for violation of title VI.

It seems to me it is up to Congress to make sure that the agencies do what the law requires them to do and this Congress has not done.

Senator **Stevenson**. Dr. Morrison, you heard testimony earlier today which indicated that the activities of the land-grant college complex which tend to benefit agribusiness and oftentimes at the expense of people in rural America.

Do you have any suggestions to make as to how those activities that the land-grant college complex, including the activities of the 1890 institutions, should be redirected so as to give more of the benefits to people?

Dr. **Morrison**. Yes, I think that they should give attention to that element of the population for which land-grant colleges were founded in the first place—to help educate average people.

I do not oppose, however, if it is desirable that institutions having capability for performing other duties for other people, that they do this. But not to the neglect of the other element of the population for which they were supposing to work for in the first place.

It is common knowledge that the land-grant college system is one of the most outstanding systems of education in the world. They have done great things—technological advancement and so forth. Most of the Ph. D. people and great scientists have come out of the land-grant system in spite of the very capable private institutions that we do have.

I think, and I know, because I have grown up in this, I worked in agriculture nearly all my life, and I have seen that the poor are neglected, and I did not preface this by saying that the poor blacks have been neglected—I said the poor have been neglected.

The 1862 colleges must justify expenditures and maybe we have been too hard on the justification of expenditures in a tangible way by requesting a showing of great results. I think this is one of the things the land-grant colleges in their presentation here would want to point up. You cannot show great tangible achievements in a short period of time with poor people. They are not going to show a great increase in production, because they are not dealing with large acres of land. And it is very easy for us to neglect. This is one of the things we have done all along the way to the little fellow. I hope after these hearings that this will turn around.

I am very much concerned—the same kind of a thing has happened with the Federal funding. When funds were made available, especially to deal with the poor, everybody all of a sudden became experts, knowing exactly what to do, and the people who have been working with the poor through the years at great sacrifice and have developed some expertness in working with them suddenly know nothing. Therefore, they are not funded. Whereas some agencies have come up with instant specialists who know just what to do and the money really never gets down in terms of education or otherwise to low-level people whom we desire to reach.

Senator STEVENSON. With more funds for research and extension, what would you do at Alabama A. & M.?

Dr. MORRISON. I would say and do exactly the same thing that it took to get the $12.6 million. We stated that the 1890 institutions are close to the poorer elements of the people and that we need to have the opportunity to work with them because we have demonstrated that we can work with them.

Senator, I am not talking idealistically. This is a pragmatic conversation. I have brought a number of boys out of the back woods who had nothing but some ability and often they did not know they had the ability, you know, they are now really making a contribution to society. May I point out just one case. A young man from south of Birmingham, Ala., wanted to go to college, but he had no money. He was from a big family. He came to Alabama A. & M. to talk and I asked him what he wanted to do. He said he wanted to go to medical school. I said we do not have pre-medical courses here as such, and furthermore, it costs a lot of money to attend medical school. I asked him: "how about agriculture?"

I convinced him that if he were to take a scholarship which was $100 maybe we could see him through college, and we did. He found himself. Later he received one of the highest scholarships that Harvard gives. After graduation, Harvard wanted to hire him to work. He said no, I am going back and work at some black institution. He got his Ph. D. from Harvard and he is now working at Alabama A. & M. at far less salary than he could get at the University of Harvard. He is paying more taxes than 20 or 30 of the average type of person would be paying in Alabama today.

This is the kind of thing I am talking about. Now, what will we do? If we are to do this and if I had more money we could extend it. We are working with deprived individuals and not enough research has been done to find out what their needs really are. Why are they in such condition they are in? Why are their aspirations so low? Why have they not been motivated? Not much research has been done on this. Not much research has been done on the types of crops that they could grow that would alleviate some of the hunger that is out there.

We would use our research money to try to answer some of these types of questions, rather than get at the content of how soybeans are stored or produced with $60,000 worth of equipment. I think the little fellow needs to know how to produce and store his garden crops, his sweet potatoes, his fruits and grains. If society wants to spend its money on big farmers I am not opposed to helping the farmer who has 500 acres of soybeans. Because we need soybean oil.

Senator STEVENSON. That is what I was getting at. It is not just teaching, it is research, extension, the experiment station activities that could all be supported in institutions like your own.

Dr. MORRISON. I am going to answer a question that you have not asked, if I may put it like that.

Now that we have integration, the 1862 institutions—let's phase in the 1890 colleges with our operations—phasing in always means phasing out black institutions. I have said this in my prepared statement, however, it was stated rather briefly. I think it is a vital point, that any people, that any race of people, that any ethnic group needs a home base from which to be a real representative of his culture, of his race. If we destroy this within any group of people, we tend to destroy them. I hope we will not listen to what I term some of these experts who are literally ignorant about black people and their problems and try to be experts on black institutions when they know very little about them. They know nothing about how black kids who have not had anything had to struggle for their existence. They know nothing about how they think, how to motivate them. Yet, they say these students should go to the 1862 institutions. I do not think we can get the job done in this manner. I think what we need to do is support the institutions have that worked with and been successful in motivating and educating these poor kids through the years. We have a person who is an assistant to the President of the United States who was brought up in one of these black institutions. He must be qualified or else he would not be there. In order for a black kid to be silver, he must be gold. This fellow must be a diamond. He has been there for about 2 years. This is the kind of student that these black institutions are turning out. If we destroy them we will destroy educational opportunities for a lot of good people.

Senator **Stevenson**. That is a moving appeal for help, Dr. Morrison. I hope that we can respond.

We are running out of time now. I am going to have to move ahead to our remaining witnesses. Thank you very much, both of you.

Dr. **Morrison**. Thank you for inviting me to testfiy.

Mr. **Schuck**. Thank you, Mr. Chairman.

Senator **Stevenson**. We will have to recess for a vote on the floor. I will return to our hearings in just a few minutes.

(Short recess).

Senator **Stevenson**. The hearing will come to order.

Our next and final witness today is Mr. Robert Rodale.

Mr. Rodale is the father of the organic farm movement in the country. He is also editor of Organic Gardening and Farming, as well as other publications.

Thank you, Mr. Rodale, for joining us.

I will say to you what I said to the other witnesses. We will be glad to put your whole statement in the record. If you prefer to summarize you may or otherwise you may read it.

Mr. **Rodale**. Yes, thank you very much. I do not intend to really read it. May I submit it for the record?

Senator **Stevenson**. Your statement will be printed in full at the conclusion of your testimony.

STATEMENT OF ROBERT RODALE, EDITOR, ORGANIC GARDENING AND FARMING MAGAZINE, EMMAUS, PA.

Mr. **Rodale**. Thank you very much for the opportunity of appearing here.

I am not really the father of Organic Gardening and Farming. My father was the father of it.

Listening to what has been said this morning, there are certain questions that have come to my mind, certain thoughts which I thought I would bring out.

First of all, I just want to say that the land grant colleges have almost, since the inception of the organic idea attacked organic farmers and gardeners and scorned them as being faddists or kooks and we have had very little help from the land grant colleges in our work.

They take the position that there is no difference between food that is organically raised and food that is conventionally raised, and this has been a significant hurdle for us to get across. However, we have made a good deal of progress in the last 30 years. We now have several million people who have been exposed to our publications and to the organic idea through other channels over the years.

I do not have a very high opinion of the mental capacity of agricultural scientists in general and those in the land grant colleges in particular.

I just want to make the point that I think it is wrong to look on the land grant colleges as a very potent force, and whether they do things right or wrong is going to influence the country. A lot of them tend to be pretty dense and they are not nearly as effective as many of the scientists who work for industry or the executives in industry.

Many of the bad things that happen in agriculture in the United States are industrial-oriented, I think the land grant colleges should be criticized, not only for what has happened but for just being very ineffective, incompetent people to a large extent.

I will give you a little lecture in farming that may make some of these points more clear to you.

The production of food requires energy, and prior to about 60 or 70 years ago almost all the energy used to produce food in the United States came from what I call current solar energy, the sun today shining on the land. The old-fashioned type of farm was powered almost exclusively by today's solar energy—the sun hitting the leaves of plants powered the process of photosynthesis which creates calories and helps create protein and all the food elements that go into the food supply.

This current solar energy form of agriculture is the kind that has existed since time immemorial and it is very effective and efficient. It allows for the recycling of agricultural wastes, it fosters a kind of agriculture which does very little damage to the environment.

The basic transformation that has taken place in agriculture in the United States which has caused the migratory labor problems that have been touched on so eloquently this morning is a transfer from current solar energy power in agriculture to the use of stored solar energy, by which I mean the fossil fuels.

Agribusiness is basically powered by coal and oil, and fertilizers. For example, synthetic nitrogen is made from oil—created through the use of oil and through coal. The tremendous machines that are used are powered by stored solar energy.

What has happened to the farmer is that the businessman has come along to him and said: "You have been living off the sun that shines today for so long and you have been able to grow a certain amount of crops. Well, if you buy my product I can give you the sun that is stored underground for many thousands of years and you can grow things faster and more easily."

I am sure if an analysis were made of the average farm you would see that the energy consumption from fossil fuels has increased many, many times and the soil is no longer an element in the cycle of life that rotates or is powered by the sun, but is just a medium to hold up the plants. It is a convenient way to hold up plants and get water to the roots, while the fertilizer companies and pesticide companies and machinery companies do things to the plants—feed it—force feed it and make tremendous profits as a result.

Now I think we can, using very advanced scientific information that is becoming available, return American agriculture to more use of current solar energy, which is free. We can reduce this dependence on fossil fuel by using our wits.

The chemical system substitutes packaged or patented material for the brains of the farmers. The farmer used to be able to read the cycles of nature and know how to cope with the ups and downs of the natural environment. Now he is fighting a war against the pests that crop up, and the agribusiness people, are feeding him the weapons and the strategy to use. I think if we call a halt or somehow restrict this kind of peddling of stored energy and start getting farmers to think for themselves again, we are going to make a tremendous amount of progress. We have to do that because the supplies of fossil fuel are running low. We have been thinking of the energy crisis primarily in terms of how are we going to cool our bedrooms and how are we going to flow air through office buildings when we run out of fossil fuel. But there has been absolutely no attention given to the question, How are we going to power agriculture when oil runs low and when coal runs low?

That is a much more important question. If we shut off supplies of coal and oil today to agriculture you would have a starvation system in a very short time because the people who operate solar energy agriculture are drawing welfare checks in Chicago and other places and they do not have the skills any more. They have been displaced, they have been moved, they have forgotten, have not been taught. I was frustrated listening this morning.

The problem is much more serious than has been brought out by the testimony this morning and the basic roots of the problem have not been enunciated. I do not claim that my presentation is the only one or that it is not subject to cross-examination. But I do maintain that it is extremely important. The program I suggest is outlined in my testimony.

First, we've got to get rid of a lot of those deadheads in land-grant colleges who are just parasites and get some more ecology-minded people—just elevate the general level of mental capacity in the land-grant colleges and then get them working on a program—this starts on page 5 of my testimony where I list some of the efforts—some of the areas, energy, which I discuss, and that is only one.

The second is waste conversion and fertilizer production. There are present challenges that have to be met, not the least of which is the creation of a whole new sewerage system. Now, what do we do in cities, we take 99 parts of pure water and mix it with one part of human waste and get sewage. We run it through pipes and to the sewerage plants where we try to separate the water from the wastes. That is utterly ridiculous.

One of the greater things we can do for agriculture and for the whole problem that has been discussed is to develop a dry sewerage system. That is the kind of project that the land-grant colleges should be working much harder at.

The third area is machinery for small farms that would make small farming much more practical, and it would require the use of more hand labor. We have the hands, but we do not have the brains and hands in the right places. We need the kind of science which will make small-scale farming practical and possible, and it can be done.

Biological insect control is another area that needs work. The stupidity of the land-grant colleges is evidenced by the fact that they have not been able to see the basic fallacy in the pesticide system. Insects are so well adapted to life on earth that it is absolutely futile from a long-term point of view to try to kill them with poisons. You just cannot kill every one. The ones that you do not kill are the ones that breed. You leave for breeding purposes the strong ones you do not kill. These characters have not been able to see this basic thing, at least until Rachel Carson came along. They now are starting to do biological insect control, but the marriage of the two systems is very difficult because as long as you are spreading poisons you are killing the good ones along with the bad ones.

Senator STEVENSON. You mentioned that in the case of biological insect control that there is no work being done in the land-grant colleges.

The suggestion was made earlier today that it is not "stupidity"—to use your word—but among other things it is the ties that land-grant colleges have with, for example, manufacturers of pesticides, that perhaps determines their priorities.

Do you have any basis for agreeing that one of the determinants of research priorities at the land-grant college complex is conflicting economic interests?

Mr. RODALE. That is a fact. But I made a study about 1955—I forget the exact date—but I was writing an article for Organic Gardening, trying to show that agricultural research was really paid for by industry—the increasing amounts were being paid for by industry. At that time it was very easy to get the figures. I think the experiment stations put out a book, an annual report and all the figures were there in one column. I very easily got the totals of how much money came to the States, the experiment stations from the Hatch Act and other sources and how much from industry. I showed that the amount of money coming from industrial grants was increasing.

I wrote an article, "Who Pays for Agricultural Research?" I could give you a copy. It is about 15 years old. It showed at that time about one-third of research funds were being paid by industry, but the amount was increasing every year.

I forgot the subject for 10 years and I went on to other things. Recently I said to myself I had better update this thing. I found first of all that the figures were now almost impossible to get. You have to write to each State for their report and a lot of them say they do not have it or you just came too late, or we do not even put it out. So I was not able to get a complete figure. But I did get a figure which shocked me, and that was that the percentage of money coming to the experiment stations for industry was lower now than it had been 15 years ago. Yet, the industrialization of agricultural research is much further advanced.

I think the agribusiness has just got everything they wanted. They got their cake—they got the whole thing and they do not have to pay for it. Many experiment station scientists are conditioned mentally, brainwashed, and that is stupidity. That is what I mean. It is so easy for the chemical people to buy the scientists that they now can buy them without even paying for them—just by giving them membership—as Jim McHale said, in "the club." That is stupidity.

Anyway, we need better educational technology.

The extension service is a fine thing, but it has been downgraded and there are many advances that could be made in educational technology, because to operate the kind of agriculture I think the country needs, you must have a higher level farmer than you do now.

I tried to buy a farm a few months ago. I went to a farmer—I sort of liked the place and I said, have you had any soil tests made? He said, oh yes, the fertilizer company comes in every year and makes a soil test. They tell me what I need. I said, well, let me see the results. He said they never show it to me. They just tell me to pay the bill. This is a fellow who is going out of business because he could not make it any more. That is typical of many farmers. They do not even ask to see the test results any more because they take the word of the people that come and say we have been to Penn State and we know what is good. You need to give them pride, a sense of independence and a higher level of educational desire than they now have.

Senator STEVENSON. I thought the county agents conducted those soil tests. Is the industry conducting the tests?

Mr. RODALE. I know more about Pennsylvania than other places. You can get tests from the State—the county agent does not make it. He just sends it to the State. But the fertilizer companies now do it to a large extent and we found, for example, that there is tremendous variation among these tests.

We did apply for them recently, and we sent samples of the soil to Penn State and they came back and said, you are very low in phosphorus in this farm. We went to the county agent and he said, do not worry about it, all the farms around here are very low in phosphorus. We were not satisfied. We sent the sample to a private laboratory and they came back and said, it is really not that bad. You have a good amount of phosphorus.

So there is a tremendous room here for mixup. I am not saying this is done deliberately. The level of help that the farmer is getting in soil testing is not too good. There are many different types of soil and each type of soil requires a different type of test procedure to get accurate results and it could be that a lot of farmers are using too much fertilizer because of the type of test result, the type of test used is not good and the farmers today do not have the native intelligence or native experience to detect that kind of problem.

It is like doctors. You get sick and you go to the hospital and the internist there does not know how to diagnose, they just know how to read tests. They do not know how to diagnose you. If the tests are not right they may not find your illness. So the same defect in medical training and technology is now in evidence on the farm. The farmers are like interns in the hospitals. All they know how to do is read these tests and they are not like the oldtime family doctor who could look at you and say, you have been drinking too much or you are just not getting enough sleep.

The real tragedy of American agriculture is, we are in the hands of the worship of technology. There is a solution to every problem and it will come in some kind of chemical package or test tube package. The real truth is that each one of these miracle solutions has in it the seed of its own problem, a second order of consequence which is much more serious. Only when we can resist technology and take it with a grain of salt and say, look, we know, we respect the sun and oil and we are going to think this out ourselves, will we begin to get a solution.

Let me read what Wendell Berry wrote. He is a professor at the University of Kentucky.

> The mentality of organic agriculture is not a technological mentality—though it concerns itself with technology. It does not merely ask what is the easiest and cheapest and quickest way to reach an immediate aim. It is, rather, a complex and radical attitude toward the problem of our relation to the earth. It is concerned with the long-term questions of what humans need from the earth, and what duties and devotions humans owe the earth in return for the satisfaction of their needs.

Until we can begin to respect the whole environment and have an interest in nature on an agricultural basis we are just not going to really understand this kind of problem.

Unless you have a question that is all I can say.

Senator STEVENSON. How should Congress respond, or should we, to that critique of the farmer and land-grant college priorities and activities?

Mr. RODALE. If you carry this kind of logic to its natural conclusion you begin to question the whole political process.

It is only when the people begin to understand that there are not miracles available at every drugstore for every problem will there really be any hope to avoid what Jacques Ellul calls the velvet-lined concentration camp. What we are being herded into is a situation where every problem is solved with some chemical and our options are taken away from us one by one and we are really in essence put into these "velvet-lined concentration camps." The real tragedy is, we will not care because we are being tranquilized and lulled as we get pushed along. That is the point of these tomatoes you saw—why does the consumer buy the hard tomato or the tasteless strawberries, or why does the consumer insist on apples that have no marks on the skin?

There is no act of Congress that is going to change that. It is a basic fact of life in the technological society.

I can just tell you what I see as the problem. I see research in small scale farm technology as one. But even that I think is a holding action until we can get to the minds of people or get them much more interested in what is going on in nature.

Senator STEVENSON. There is a growing market, I gather, for organically grown food.

Does the Department of Agriculture make any effort at all to help farmers grow food organically? I can see how they might feel it is inefficient, notwithstanding that there is a market for the food. There are farmers who help supply that market. Does USDA recognize to that limited degree the needs of the organic farmers for advice and help as to how best to grow organically raised food? Does USDA make any effort on that limited basis?

Mr. RODALE. First of all, the USDA is a very big organization and you cannot generalize about the whole organization. But I think it is their general policy not to do much to help the organic people. I am sure if you asked Secretary Butz, he would take that position. We have not got too much help in that area. We have a lot of hindrance.

There are areas in which we have had cooperation. For example, we offer a free subscription to "Organic Gardening and Farming Magazine" to every county agent. We have many county agents who write in and get these free subscriptions. The office in the USDA that communicates with county agents has made the offer available in their publications. They said, if you want to find out about organic farming write to Rodale Press. So we have help in that respect.

Also, they are starting to do a considerable amount of work in biological research—biological insect control.

The type of question which the USDA and State and land-grant colleges have been getting about organic farming has changed. It used to be that the farmers would ask the college, what is with this organic business? And the college would say, it is nonsense, forget about it. Now the colleges are getting this kind of question—the farmer says, I am growing tomatoes for health food stores and I am not supposed to spray. How can I control the insects? Some of the land-grant colleges have begun to respond. They have taken the attitude, well, we are here to help the people and they are trying to help give that kind of information. They get out the old professor who has been retired and he used to remember how to do it years ago and they dust him off and say, tell this guy how to do it.

Also, there are some States where we are getting positive help. Like the State of Maine, where they have a really severe agricultural problem and they are not as tied in with agribusiness. They are starting a statewide organic effort—I am sure the State college is playing a part—the State of Maine is putting out a 30-page booklet on organic gardening methods for vegetables. It will be issued by the equivalent of the land-grant college in Maine.

We are getting fine help in Pennsylvania, thanks to Secretary McHale.

California is very bad for us because of the agribusiness penetration there is deeper than anywhere else. They are being very obstructionist.

Senator STEVENSON. Can you mention other such examples—Maine, Pennsylvania?

Mr. RODALE. State of Washington has a group—I am not sure if the State college is involved, but they do have a statewide effort to produce organic food.

Wisconsin has a committee in the college, what they call organic farming and gardening committee which meets once a month to discuss what they should do about this situation.

Rutgers in New Jersey has published a leaflet which takes a rather middle ground view and explains the pros and cons.

There are bright spots but they have not come from the USDA higher-ups as yet. Maybe some day they will.

But we encourage our readers, when they have a problem, to write to the land-grant colleges and ask them the same question. The reader writes in and says, I got something bothering my buckwheat, how do I get rid of it without spraying? We tell them as best we know how. We also send them a slip of paper which says, now we have answered this question, but why don't you write to your land-grant college and ask them the answer because they should know what kind of problems you have. Get them thinking along these lines. We get thousands of letters a month and we are sending out thousands of these kinds of statements to our readers and I think it will have an effect.

Senator STEVENSON. Is the same revolution in agriculture taking place throughout the world? Is farming everywhere going the same way, larger, more mechanization, more chemicals?

Mr. RODALE. Well, of course, I am not an expert on worldwide agriculture but we have had a number of visits from people.

In France, the situation is very similar to the United States. In Europe they call it biological agriculture rather than organic agriculture. And in France they are in the same kind of battle there with their Department of Agriculture as we are here.

In European countries there is apparently a deeper affection for the land. It has been in the culture for thousands and thousands of years and the people holler louder when they have to give up their land and move to the city. That is a hope.

In China, we had information that Mao Tse-tung and Chou-En-lai are very concerned to maintain the peasant tradition of Chinese agriculture because their political support comes from the peasantry and the Chinese higher leadership appreciates the problem—it appears to be more aware of the problems that have emerged in the United States than some leadership in other countries. However, there are considerable pressures in China to use more pesticides, for example.

I think it is more or less—I am fishing for the right word—a theoretical interest or philosophic interest by the Chinese leadership. But the underdeveloped countries seem to have a tremendous pressure to go the way of American agriculture.

The green revolution has fostered that. But there is also now a backlash forming. At the UN conference in Stockholm, one of the resolutions creates a bank of wild crop varieties. One of the consequences of the green revolution is to make all the rice or wheat in the country uniform. The little native varieties are lost and it is the little native varieties that provided the germ plasm for the miracle grains. So the UN has now asked measures be taken to preserve the native varieties. In case the miracle varieties are wiped out, where are we going to be? But it is extremely difficult and expensive to preserve the native varieties in a technological agriculture. You have to have special little farms. You cannot keep the seed indefinitely. You have to keep growing in and it is a very expensive thing.

I think it would be much better to just develop a kind of agriculture that had more diversity in which more native plants could be preserved naturally.

Senator STEVENSON. Thank you very much, Mr. Rodale. Your testimony has been most informative and fascinating. We have, however, run out of time.

We have heard the critics today of the land-grant college complex, and tomorrow we will hear from its defenders and others.

(The prepared statement of Mr. Rodale along with other pertinent material submitted for the record follows:)

STATEMENT

by

Robert Rodale, Editor

Organic Gardening and Farming Magazine
Emmaus, Pennsylvania 18049

Before Senate Subcommittee on Migratory Labor

Monday, June 19, 1972

My name is Robert Rodale and I am the editor of Organic Gardening and Farming magazine. Our main editorial office is in Emmaus, Pa. I thank you for the opportunity to testify at these hearings on land grant colleges.

In my opinion, the land grant colleges have helped to foul up this country by applying too many simplistic technological remedies to farm problems without trying to foresee the eventual consequences of those remedies. Workers at the land grant colleges have continually used advancing technology to replace human hands with machines, chemicals, and special varieties of crop plants. The result has been more food produced by each farmer and on each acre, but at the same time much displacement of people to the cities, high costs for welfare, other social disruption, and often sad environmental consequences.

In using the power of advancing technology in such blind ways, the land grant colleges and their allies--the chemical and machinery firms--have not done things differently than other segments of industry. Almost all phases of American life for the past 100 years have been characterized by such technological penetration, with little thought for what is likely to happen beyond this year's profit and loss statement. The automobile industry is a perfect example. All it appears to be concerned about is the production of more cars each year, plus the making of more highways on which those cars can travel. The basic question of how people can transport themselves in the most environmentally sound, economical and satisfying ways appears not to be the concern of the auto industry. That is a problem for someone else to solve, they seem to say.

Food is another example. Technology, blindly applied, has given Americans a fantastic range of convenience food--and nutritional problems that were not dreamed of before the advent of that technology. The same kind of indictment can be--and has been--made of many other facets of American life, and steps are now being taken to try to correct those problems.

I believe, however, that the problem of wrong use of technological remedies is more serious in agriculture than in industry and other phases of life, and merits special attention. There are several reasons:

1. The government, through the land grant colleges, has been the primary agent for this technological disruption of our lives and environment. Therefore, government has a special reason to try to set things right. Also, because the land-grant colleges are under government control to a large extent, the means for changing the direction of their work exists.

2. Agriculture, rooted in our fertile soils, is the basic source of American strength. Technological mistakes and the disruption of our farm population sets the stage for a serious long-term threat to our nation's health. The technological manipulation of our agriculture is a perfect example of the all-too-human trait of putting short term profits before the obligation to maintain resources for long-term use. Chemical agribusiness is not proven as a long-term technique. It is still experimental.

3. Finally, the vast rural lands of America have traditionally been a refuge for our troubled citizens, seeking new opportunities, and a new start in life. The present system of farming, oriented to big business, has effectively closed off that alternative for millions of people, and will shut it off entirely for all but a handful of farmers if the present trends continue. If that happens, one of our most precious social resources will have been lost, replaced by urban ghettos of the most miserable kind.

My constituency, the organic gardeners and farmers, are the remnants of the many millions of people who at one time constituted the yeoman core of American stability and strength. We are largely the little people still living on the land, not the businessmen farmers. We grow vegetables and fruits on small plots, using natural and non-chemical methods because we have found by experience that those methods are very effective. We concentrate on building the fertility of the soil, because we know that a fertile soil produces abundant crops with much less work and expense than a depleted soil.

There are some farmers in our organic group, and more are joining every day, but in the farm country we are still a tiny minority.

The amount of help that the land grant colleges have given to the organically oriented people over the years is hardly large enough to be worth mentioning. Some of the techniques of modern, conventional gardening and agriculture are used on organic gardens and farms. Improved tractors and tillers are a help, and so are the new biological controls for insects. But the great bulk of new chemicals and machines and ideas coming out of the land grant colleges have been anti-organic in their orientation, and of no use to us.

The real tragedy is that the agriculture colleges have often attacked the organic people--who really are the only farmers and gardeners completely in tune with the environment--simply to create a smokescreen to mask the stupidity of their own technological policies. We are the kooks and the nuts, they say, while their chemical-spraying farmer, sitting on his mammoth tractor, is supposedly nature's nobleman, wisely following their scientific instructions to the letter.

Without really knowing what organic growing techniques are, and with even less knowledge of how to use them, they repeat the bald statement that millions of people would starve if organic farming was universal.

The real truth, which these land-grant colleges scientists don't want to face, is that if organic systems were used universally in agriculture and in urban life, our country would be much better fed and stronger in many ways. But you cannot just take the chemicals away from conventional farmers and expect them to become effective organic farmers overnight. You must have a plan, and do many things in an organized way.

Garbage, sewage and other organic wastes must be returned to the land instead of being burned or buried. That would solve an important urban problem.

Displaced farm workers now living in cities must be given the chance to return to the land with dignity, working their own small plots of land where they can support themselves. That would save billions of dollars in welfare costs.

Most importantly, the land-grant colleges must use their scientific resources to create a new generation of what I call the soft technology of farming. They must create machines and techniques that are better and smaller at the same time, instead of concentrating on large-scale techniques that always end up replacing people. We organic people do not want to go back to the old ways. We are not advocating a return to primitive farming, where people are worn out by hard work by the time they are 40. We want a new, ecologically-oriented agriculture that can be made possible by the intelligent application of the best scientific thinking to our problems.

Here are some of the areas in which scientific effort is needed:

1. Energy. Conventional farm technology is essentially slanted toward making the farmer an agent in the use of stored solar energy (in the form of processed coal, oil, gas, and soluble fertilizer deposits) for the increased production of crops and animals. By contrast, all farming prior to 100 years ago, and organic farming today, operates primarily on current solar energy falling on crop lands.

Absorption and conversion of current solar energy is far from complete using present methods. Through photosynthesis, plants convert only a small fraction of sun energy into usable food. By extending the growing season through natural means, ways can be found to increase the conversion rate of current solar energy on small farms. More intensive methods for growing fruits and vegetables also make much more efficient use of the sun's energy than does the growing of most farm crops, such as wheat, corn and soy beans.

With new technology based on more scientific input, sun energy can also be used on small farms for home heating, waste conversion, and increased movement of water from the subsoil to the surface, by way of deep-rooting plants. Also very interesting is the culture of semi-tropical fish (eating low-priced grass as food) in solar-heated dome structures.

Other sources of energy can be tapped for small-farm use. Wind-power generation can be perfected, and organic wastes can be used to produce methane gas for heating, lighting, and even for powering of automobiles. Power storage systems suited for small-farm use can also be developed.

2. Waste conversion and fertilizer production. Ways can be developed to make many waste products of urban living into valuable fertilizers, with less labor and handling than is currently needed. Present technology is adequate to convert almost any organic waste to a fertilizer or soil conditioner, but process-costs need to be reduced. Also, subsidies by urban government seeking to dispose of wastes should be directed to small, organic farms.

3. Machinery. Agricultural engineering departments of land grant colleges should cease work (at taxpayers' expense) on machines for large farmers and work only on machines that will make small farming more practical and competitive. The rotary tiller is such a machine. Using small power units, it enables large-scale gardeners to do a thorough job of tilling the soil. It is essentially a miniaturization of the traditional plowharrow machines.

Similar miniaturizations of all farm machines are needed. Some are already available, particularly tractors and related equipment. But work is needed to develop miniatruized harvesting equipment oriented toward making individual farm workers able to compete with large-scale machines.

4. Biological insect control. Much good work has already been done toward finding natural substitutes for toxic chemical pesticides, thanks to both the ecology movement and the realization some years back that pesticides are too expensive and have a limited useful life because of the build-up of insect resistance.

Increased scientific efforts in the biological control area are necessary. Of great interest are recent discoveries indicating that plants, animals and insects (and perhaps even man) are tied together in a chemical communication network. The active agents of this network are pheremones, essentially airborne or waterborne hormones. Pheremones provide the answer to many questions that have puzzled both biologists and farmers, and point toward new culture methods that eliminate toxic risks and lower costs of production. However, chemical pesticides cover up or interfere with the pheremone network, so the system of natural food production is not always compatible with partial use of chemicals, as in integrated control.

5. Educational technology. Thorough studies should be made of all ways in which both city and farm people could be taught to appreciate the virtues of small-scale production. Present education practices are directed toward creating agricultural specialists, or people motivated toward working in agribusiness operations.

6. Marketing techniques. Here is an area of great potential benefit for the small-farm movement. Intensive scientific and business efforts should be

directed toward perfecting methods of getting fresh, relatively unprocessed food quickly and cheaply from farm to consumer. Cooperatives can be of help. So can improved packaging and shipping techniques.

On a recent visit to the U.S. Department of Agriculture, an editorial associate of mine requested that the USDA set up an "organic farming office" that would distribute useful information about managing a small farm by organic methods—for example, the cheapest ways to spread manure over fields; mechanical ways to control weeds; biological insect controls for the small farm; resistant varieties, and other subjects which the USDA obviously knows much about, but which farmers are not being informed about regularly by extension agents. Even a one-man office would be a start toward recognition by the USDA and land grant colleges that organic farmers are, in fact, a legitimate constituency to serve.

The request was turned down however, since—in the opinion of the USDA official—the Department already served not only all farmers but all Americans. The USDA and the land grant college complex have something for everyone, his reply went on, including organic farmers.

But over the years, everyone has come to be spelled with a capital E, and USDA policies reflect the recognition that agriculture is a Business also spelled with a big B. Evidently in the millions of dollars spent annually, there isn't much money or time left over to aid the family farmer—and certainly not the organic family farmer.

In early March, the Senate Subcommittee on Monopoly chaired by Senator Nelson held hearings on the role of giant corporations in American and world economics. Specifically, the witnesses tore into corporate secrecy and agribusiness.

Repeatedly, the efficiency of the family farm was documented in every phase of food production and land management—but marketing.

However, it seems as if the organic market is emerging as a model for effective marketing by family farmers. It is becoming more widely recognized as just such an authentic model by consumers and even by some state officials. A recent editorial in The Washington Post confirms the recognition of organic as an alternative route:

> "It is news to no one that a high tonnage of the food eaten every day by Americans is worthless, tasteless, contrived and can occasionally be actually dangerous to health. The production of all this junk food is a major U.S. industry. . . In many cases, the consumers who are rejecting it are turning to what are called organic foods . . . Though gimmickry and artificiality may one day become as much a part of the organic industry as it is now a part of the commercial food business, there is one built-in check. The shopper at the organic store is there precisely because he is suspicious of supermarket food. He is wary of the synthetic; he may or may not be a faddist lost in imaginary gardens of sesame seeds, but he also has a sense of the genuine."

There remains a very real danger that major companies will try to undermine the effectiveness of the organic alternative.

A continuation of present land grant college actions and philosophy will insure that there is no alternative to the destructive course of U.S. agriculture. Farms will get fewer and fewer, and farming profits will go to bigger and bigger conglomerates. More and more people--who want to remain on the land--will find their own tax dollars used to fight against the very agricultural alternative they are trying to create.

Right now, a sizable number of American consumers are paying a subsidy for foods grown by organic farmers. When you think about it, these Americans are being taxed twice in effect--first, all their regular tax dollars go through government channels to support and perpetuate chemicalized, agribusiness food production. Second, they are paying--voluntarily, I admit--an additional subsidy to encourage farmers to change away from methods which their official tax dollars support.

Existing efforts of land grant colleges are clearly not enough. Constructive programs will only develop when land grant college advisory committees and policies aggressively seek to develop the ways and means to help solve the problems plaguing family farmers and the people in rural communities. Half-hearted efforts--as we have seen in the past--get us nowhere. We need people in official capacities in the USDA and land grant college to say: "I am ready and able to support specific research and programs which will help more people make a better living on the farm. . . . I am ready and able to support specific alternatives to our present agricultural system."

This does not mean a condemnation of everything now going on in the agricultural system. This does not mean to be a call to stop all projects and issue statements like "We can do it, but you must pick which half of the U.S. will starve to death."

All I am saying is that those who seek change should have official recognition. . . should have a substantial amount of the dollars now being expended to support constructive change. . . and that people in high places should not be so quick to condemn those who would alter the agricultural status quo.

Through my involvement with Organic Gardening and Farming magazine, I am most familiar with the agricultural alternatives offered by the organic method. This is only one of the terms and forces now developing. I am sure that other labels and other terms will develop.

But we are witnessing a very vital development taking place around the identifying label offered by the word "organic." It has come to stand for an attitude that looks upon smallness as a virtue. In an era when most city people have grown up without any personal communication with the producer of their foods, the organic route is clearly different. Suddenly, the consumer can identify the farmer, and the farmer can identify the personal needs of the consumer. No longer is the supermarket clerk or the television commercial the most vivid contact. Suddenly, the organic family farmer replaces the jolly Green Giant.

The word "organic" is helping city people to understand farming problems. The word is helping to forge an alliance between farmers and consumers. A great part of our present problems in society is due to programs that have actually built walls around farms and cities--programs that have isolated one segment of our society from another. This separation means that representatives of city voters vote against farm-oriented programs, and vice versa. Wouldn't it be great if more programs and alternatives stressed the common benefits to both city and rural people?

I ask the Senators exploring the land grant college system to look upon the needs of organic farmers and organic food customers as a step toward developing future programs which that system could develop. These people want to tear down the barriers to communication. These people are against the present trend where farmers go indifferently in one direction, while consumers go in the other—each blaming the other for their respective troubles.

Out of these hearings should come a clear recognition that the purpose of the land grant college system is not to create only one single agricultural system that helps only those who are big enough to plug into. Diversity is a healthy characteristic of all environments. And we need a land grant college system that thrives on diversity.

Last month, our company sponsored a National Conference on Organic Farming and Composting to report on how cities are using--and can use--organic wastes like sewage sludge to build soils, and how the world needed an agricultural system that makes use of those organic wastes. We believe organic farming can provide such an agricultural system. Organic farming can provide high-quality food to consumers in nearby cities, farms that can provide jobs, farms that can be both economically-and environmentally-sound. And farms that can use composted city wastes to build humus into soils.

The Conference brought together qualified experts in solid waste management and public health, but we were unable to secure a single representative from the land grant colleges to present a report on those topics. As has been the case with the development of organic agriculture in this country, it continues to be responsibility of proponents of an organic agriculture to be their own researchers, their own experimenters, their own extension services—while the tax-supported research into agribusiness goes on and on.

Our Conference was most fortunate to have Wendell Berry--this year's Distinguished Professor at the University of Kentucky and an organic farmer--as the transition speaker to shift the meeting from an urban orientation with wastes to an agricultural emphasis on organic food growing. His topic was "Where Cities and Farms Come Together," and he began this way:

"The mentality of organic agriculture is not a technological mentality—though it concerns itself with technology. It does not merely ask what is the easiest and cheapest and quickest way to reach an immediate aim. It is, rather, a complex and radical attitude toward the problem of our relation to the earth. It is concerned with the long-term questions of what humans need from the earth, and what duties and devotions humans owe the earth in return for the satisfaction of their needs. It understands that the terms of a lasting agriculture are not human terms, that the final terms are nature's, that an agriculture--and for that matter, a culture—that holds in ignorance or contempt the truths and the mysteries of nature is doomed to failure, for it is out of control.

"At least since the time of Henry Adams, numerous critics and historians have been concerned with the disintegration of the synthesis of disciplines that made the medieval cathedral one of the supreme articulations of humanity's relation to God. Only recently have we begun to be aware of the disintegration of an even more ancient and fundamental synthesis--that of the old peasant and yeoman agriculture, which still stands as the best articulation of humanity's relation to the world. This was not simply an agriculture; at best, it was also a culture of such deep-rooted and complex wisdom that it preserved the fertility of the earth under the most intensive human use. It was a culture that made men the preservers rather than the parasites of the sources of their life. The organic movement has its roots in this ancient agriculture that was so wise and profound a bond between human beings and their fields. And it is the rise of the organic movement that affords us a perspective from which we can understand the consequences of the disintegration of that bond--a disintegration that now palpably threatens the destruction, not merely of human culture, but of human life as well."

Professor Berry then went on to describe the forces that have taken us away from the vision of Thomas Jefferson with its stable communities and tangible connection to the country. Professor Berry dwells on our obsession for efficiency that has come to mean cheapness at any price. He dwells on our obsession for specialization that has wrought both social and ecological destruction. I quote him again: "Nowhere are these tendencies more apparent than in agriculture. For years now the agricultural specialists have tended to think and work in terms of a whole and coherent system that would maintain the fertility and the ecological health of the land over a period of centuries. . . Ignoring the ample evidence that a healthy agriculture is highly diversified, using the greatest possible variety of animals and plants, and that it returns all organic wastes to the soil, the specialists of the laboratories have promoted the specialization of the farms, encouraging one-crop agriculture and the replacement of humus by chemicals. . . . Ignoring the considerable historical evidence that to have a productive agriculture over a long period of time, it is necessary to have a stable and prosperous rural population closely bound in sympathy and association to the land, the specialists have either connived in the dispossession of small farmers by machinery and technology, or have actively encouraged their migration into the cities."

What is perhaps saddest of all is that this perversion of agriculture has probably come about from what starts out to be the noblest of motives--the best and most food at the cheapest price. With such motives, the egg industry has been revolutionized. And so has the beef industry. And so has every single crop. But has the Maine potato farmer been helped? Or the Wisconsin dairymen? Or the New Jersey egg farmer? Or the California truck gardener? Undoubtedly some have been helpted--the relatively few who have survived, perhaps. But isn't it time to begin new policies--new programs that will specifically aid small farmers? I think so!

For years, we as publishers have reported on developments in organic agriculture. We have in a modest sense acted as a kind of extension service for organic growing methods, relaying information. But the need now is too great and the hardships too severe to continue as we have in the past--hoping for a recommendation here and a bit of advice there. We believe it is time for the land grant colleges to give organic agriculture all the positive help it can.

It is time to stop playing games--to dismiss as insignificant alternatives that are already helping black sharecroppers in Virginia and Georgia to earn a decent profit by supplying organically-grown cucumbers to urban markets. It is time to make the most of such alternatives--and stop treating a genuine consumer demand for quality food as fraudulent--or a genuine back-to-the-land movement by people of all ages as merely a fad. What must the American people do to convince a Department of Agriculture official that their goals are not satisfied by continued all-out drives for efficiency and specialization?

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Arrowhead Mills

BOX 866 • HEREFORD, TEXAS 79045 • (806) 364-0730

June 23, 1972

Mr. Boren Chertkov
Counsel to the Subcommittee
Room 201, Senate Annex
Washington, D. C. 20510

Dear Mr. Chertkov:

Please insert the following statement into the record on your hearings on land grant colleges:

My name is Frank Ford and I am President of Deaf Smith Organic Farms, Inc. and Arrowhead Mills, Inc. of Hereford, Texas, two companies with the function of obtaining and merchandising organically grown and other whole, unprocessed natural foods. As an individual I farm 1,800 acres of dryland wheatland in Deaf Smith County, Texas. My son and I do our own tractor work. I am a 1955 graduate of Texas A & M University in agronomy and have served on various committees and in several positions of leadership in the agricultural community.

While I have a high regard for many personal friends who are serving in positions of power in several land grant colleges, extension services, and experiment stations, I feel that much more thrust must be given to the sociological aspects of agriculture. The short term gains in gross farm production which might be obtained with the use of massive mechanization, agricultural chemicals, and concentration of power generally will be more than offset by the costs of problems of crowding in the big cities, loss of human dignity, possible reductions in the quality of food, increased medical costs from a combination of the previous factors and a deterioration in general of the American Dream. Hundreds of thousands of Americans are crying out for leadership and responsiveness to the ideals of Jeffersonian America.

Our goal must be to retain the great aspects of our heritage while letting the outmoded decaying structures which are no longer important be replaced by a renewal of purpose. This renewal is represented today in America by millions of people of all ages who want more attention given to the quality of life and one of the most important aspects of this is the encouragement of the trend back toward the rural areas, toward organic farming, toward improving our environment, toward relating better to each other, and the reattainment of our national purpose through the reattainment of our individual dreams and aspirations.

Sincerely,

Frank Ford

Frank Ford

NATURAL AND ORGANIC FOODS FROM DEAF SMITH COUNTY

ARROWHEAD MILLS, INC.
Stone Ground, Whole Grain Products from Deaf Smith County - Featuring Organically Grown Grains
BOX 866
HEREFORD, TEXAS 79045

1972

Dear Friends:

You will recognize that many new talents have been infused into this new catalog of good foods. It all begins with the farmer who loves the soil and has a commitment to improve it. After over two decades of "Modern technology", the American farmer is re-learning the joys of feeling and smelling life in his earth. Composts, trace mineral and humic acid materials are being added to many thousands of acres now, and with the resulting increases in humus levels, bacterial action and earthworm populations, farmers are finding better moisture utilization and stronger plants which are more resistant to disease and insect attack. Beneficial insects and birds are again finding their way back into the fields, and the best talents in agriculture are searching for ways to utilize the forces of nature, rather than for new ways to destroy them.

Consumers are learning that over-processing of food has been robbing them of their food dollar, and that the approximately 2300 coloring agents, preservatives, emulsifiers, bleaching agents, anti-oxidants, etc. are quite often not so good for the life of the eater as they are for the shelf life and appearance of the eaten. There is a new interest in eating "Low on the food chain" - grains, beans, seeds - vegetables grown fresh in home gardens, so that the accumulated poisons present in our environment are reduced in our daily intake of food. New books on natural foods cookery and balanced protein through combinations of grains and beans are opening up new vistas for good health on small budgets. You might say that a fresh wind is blowing in the food business, and that a lot of nice people are feeling better than they have ever felt in their lives.

There are some good new names on this price list: Erewhon, Pure and Simple, Chico San and others are working together to bring you some good new foods which we think you will enjoy: buckwheat spaghetti, flat whole wheat noodles, cashews roasted with tamari, bulghur, rice cream, corn flour, green split peas, lentils, pearled barley, short grain rice, rice cakes, mu tea, apple butter and olive oil; also other products for natural living: Corona hand grinding mills, sesame shampoo and sesame lotion. The new, dry radiant heat method we use to produce our grain and bean flakes is really gaining enthusiasts as good cooks find that they can prepare delicious, high protein dishes from our soy and pinto flakes in less than an hour. The wheat, rye, oat and rice flakes are the basis of many good home-made granolas, using just the right touch of sunflower seeds, sesame seeds, nuts and raisins. The flakes are really good in casseroles and other main dishes, breads and cookies.

Even before the food revolution began in earnest, mothers found that once their families had tasted whole wheat rolls made from fresh stone ground flour, refined white bread had no place in their homes. They are now realizing that refined oils are no better than refined flour. The solvent extraction of oils, the high temperature deodorizing, the use of bleaches and preservatives do nothing to promote health and vitality. Refined salt is now being replaced in many homes with unrefined sea salt. Families are learning the joys of pure peanut butter - no hydrogenation, no dextrose, no shortening. The plant at Portales has been newly renovated, and the people there are ready to produce the old-style best peanut butter ever - quality guaranteed. Refined sugar is being replaced in natural food homes with delicious dried fruits and other natural sweeteners as people's taste buds are once again becoming attuned to the natural sweetness of many foods. Our purpose is, with you, to build a good bridge toward a better way. Let Peace begin with us.

from all the people at
Arrowhead Mills

Personally grown on our own farms, the finest shipped from Deaf Smith County — cleaned and ready for use in your bakery kitchen; organically grown wheat, rye, corn, soybeans, millet.

Forgotten . . .
but not gone

THE NEGRO LAND-GRANT COLLEGES

Fort Valley . . . Alcorn . . . Prairie View . . . Langston—not exactly household words in the lexicon of higher education. Few people recognize them as the Negro land-grant colleges of Georgia, Mississippi, Texas, and Oklahoma, respectively. There are in fact 16 Negro land-grant colleges in the United States—and reminders that the day of "separate and unequal" is still very much with us. What has happened and what is happening to these colleges is a story which requires telling and which should be of great concern to all people who believe in equal protection of the laws.

The notion of land-grant colleges began with Justin Smith Morrill, a Whig member of Congress, whose own formal education ended when he was 14. He sponsored legislation, first vetoed in 1859 by President Buchanan but subsequently signed into law in 1862 by President Lincoln, that provided for

> *. . . the endowment, support, and maintenance of at least one college where the leading object shall be . . . to teach such branches of learning as are related to agriculture and the mechanic arts . . . in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life.*

By authorizing legislation granting 30,000 acres of Federal land for each State's member in Congress, the proceeds from the sale of which were to be used as a permanent endowment for what were soon to be called the land-grant colleges, the First Morrill Act was the initial step in democratizing higher education in America. Prior to this time, higher education in this country was the exclusive province of the elite, the rich, or the professional classes. The First Morrill Act came at a time when more than 80 percent of the labor force in the country was engaged either in agriculture [59 percent] or industry [24 percent]. It also came at a time when 90 percent of the Negroes in America were slaves.

Almost 30 years later, in 1890, the Second Morrill Act was passed which authorized the establishment of separate land-grant colleges for Negroes. Seventeen Southern and border States chose to do so, either by designating existing private Negro schools as the second land-grant institution in the State; designating existing State-supported Negro institutions; assigning funds to existing private Negro schools and subsequently taking them over as State institutions; or by establishing new land-grant colleges for Negroes under State control. Sixteen of the Negro land-grant colleges established under the 1890 law remain today. West Virginia discontinued the separate Negro land-grant college status of West Virginia State in 1957.

At the outset, the Negro land-grant colleges were little more than secondary schools offering the equivalent of a high school education. Although every one of the 17 States, except Tennessee,* had established a separate Negro land-grant college by 1900, none of the colleges offered college-level courses until 1916. A survey that year revealed that only three predominantly Negro colleges in the United States offered programs of standard collegiate grade and all three were private institutions. In the same year, there were only 64 public high schools for Negroes in the Southern States and only 45 of them offered a full high school curriculum. Enrollment in public Negro high schools was only 8,700. Even as late as 1928 Negro land-grant colleges enrolled more students in sub-college work than in college work. Arkansas AM&N, for example, only became a 4-year college in 1929 and Fort Valley State (Georgia) did not graduate its first 4-year college class until 1941.

**Tennessee did not establish a separate Negro land-grant college until 1912. All other Negro land-grant colleges were founded in the 19th century, between 1871 and 1897, although their current land-grant status was accorded as early as 1878 and as late as 1958.*

Photo: Scurlock

Thus it can be seen that today's Negro college student represents possibly only the second, and in some cases the first, generation of college-educated Negroes in the United States. The 1960 census showed, for example, that of Southern Negroes born in 1890, the year the Second Morrill Act was passed, the median school years completed was less than 4 years. Even of those who were born in 1930, the median school years completed varied between 5 and 9 years, depending upon place of residence (rural or urban).

Despite the tremendous handicaps they have faced and are still facing today, the Negro land-grant colleges, which enroll approximately 50,000 students or about 20 percent of all the Negro students in college today, have made significant contributions to higher education in this country. In 1969, the Negro land-grant colleges graduated nearly 8,000 students. Approximately 450 alumni have gone on to obtain Ph.D's. Some of the graduates are leading public figures: Whitney Young, Executive Director of the National Urban League, is a graduate of Kentucky State, for example; Howard E. Lee, Mayor of Chapel Hill, North Carolina, is a graduate of Fort Valley State; Ercell Watson, Superintendent of Schools in Trenton, New Jersey, graduated from Delaware State; The Honorable Damon J. Keith, District Court Judge in the Sixth Circuit, is a graduate of West Virginia State; The Honorable Russell Frye, first Negro to serve in the North Carolina State Legislature since Reconstruction, is a graduate of North Carolina A&T. It might also be added that the Negro land-grant colleges are the primary source for Negro officers in the Armed Services.

Some of the Negro land-grant colleges are among those with top curriculums. Alabama A&M has a 4-year program in computer science and Lincoln University (Missouri) was among the first institutions in the State to install a computer (1960). In addition, four colleges have degree programs in engineering, five have nursing programs, and one has a law school.

Even during the years that the Negro colleges were struggling to achieve collegiate status, they were controlled by white boards of governors. As late as 1940, only three of the Negro land-grant colleges had Negro board members with voting powers. Although legal segregation applied to elementary and secondary schools in the South prior to 1900, ironically it did not apply to colleges and universities. Nonetheless, a pattern of segregation was in fact created in such institutions and this was shortly confirmed by various State legislation. Thus, when one speaks of a predominantly white or Negro institution even today, it must be remembered that they are rooted in a history of segregation.

Segregation, in an informal though not legal sense, exists in the white and Negro land-grant colleges today. A survey by the Department of Health, Education, and Welfare of undergraduate enrollment in public institutions of higher learning in 1968 revealed that none of the predominantly white land-grant institutions have more than a 2 percent Negro undergraduate enrollment. Of approximately 330,000 students enrolled in predominantly white land-grant institutions in States where there is also a Negro land-grant college less than 1.5 percent are Negro. Ten of these institutions have less than 1 percent Negro enrollment.

Negro land-grant colleges have a somewhat larger percentage of white students. Of the more than 50,000 students enrolled at predominantly Negro land-grant institutions, approximately 5 percent are white. Eight of the colleges have more than 99 percent Negro enrollment and two colleges have only Negroes enrolled as undergraduates. With the exception of the Negro land-grant colleges in four border States, Maryland, Delaware, Missouri, and Kentucky, none of the remaining colleges has less than 96 percent enrollment of Negroes. In addition, West Virginia State, which was formerly all-Negro, is now predominantly white, having a Negro undergraduate enrollment of 26.7 percent.

The Second Morrill Act contained a "separate but equal" clause:

> *No money shall be paid . . . for the support or maintenance of a college where a distinction of race or color is made in the admission of students, but the establishment and maintenance of such colleges for white and colored students shall be held to be a compliance . . . if the funds received in such State or Territory be equitably divided . . .*

It is notable that the act called for an *equitable* division of funds but not necessarily an *equal* or *proportionate* division.

Testimony by then Deputy Attorney General Nicholas DeB. Katzenbach, during congressional consideration of the Civil Rights Act of 1964 with respect to Title VI of the act, forbidding discrimination in programs receiving Federal assistance, describes the effects of that title on this portion of the Morrill Act:

> *In addition, Title VI will override those provisions of existing Federal law which contemplate financial assistance to 'separate but equal' facilities. Assistance to such facilities appears to be contemplated under . . . the Second Morrill Act. . . . Title VI would override*

all such 'separate but equal' provisions without the need for further litigation, and would give, to the Federal agencies administering laws which contain such provisions, a clear directive to take action to effectuate the provisions of Title VI.

A survey of the distribution of both Federal and State aid to predominantly white and Negro land-grant colleges shows that Negro colleges are discriminated against in terms of a fair share of such funds. A report by the National Science Foundation reveals that in Fiscal Year 1968, the predominantly white land-grant colleges in States where there is also a Negro land-grant college received $200 million from various agencies of the Federal Government—*11 times* the amount of just over $18 million which went to the predominantly Negro land-grant colleges. (Although Federal aid constitutes nearly 20 percent of income for all public institutions of higher learning, it amounts to only 10 percent of the income for predominantly Negro public colleges.) Just to cite a few examples (note chart on page 16): in 1968 the Federal Government gave $5.8 million to Clemson, the predominantly white land-grant institution in South Carolina, but the same year the Federal Government gave only $490,000 to South Carolina State, the predominantly Negro land-grant college in the State. Thus, although Clemson, the smallest of all the predominantly white land-grant institutions, has an enrollment only slightly more than three times that of South Carolina State, it received *almost 12 times* as much Federal money.

Similarly, in the same year the Federal Government gave almost $9 million to Mississippi State but only $650,000 to Alcorn A&M. Thus, although Mississippi State enrolls less than 4½ times as many students as Alcorn A&M, it received *almost 14 times* as much in Federal aid. And so on down the list.

The University of Georgia, with 10 times the enrollment of Fort Valley, received *nearly 24 times* as much Federal aid. The University of Florida, with less than five times the enrollment of Florida A&M, received *24 times* as much in Federal aid. Virginia Polytechnic Institute, with only 1½ times the enrollment of Virginia State, received *five times* as much Federal aid. North Carolina State, with less than 3½ times the enrollment of North Carolina A&T, received *nearly nine times* as much Federal aid.

Federal funds are derived from two sources: so-called "formula" funds and specific grants or aid from individual Federal agencies. The formula funds are administered by the Department of Health, Education, and Welfare (for resident teaching assistance) and the Department of Agriculture (for research and extension). One of the chief sources of the Federal aid imbalance is the Department of Agriculture. In Fiscal Year 1968, it gave nearly $60 million to the predominantly white land-grant colleges—*150 times* the figure of less than $400,000 it gave to the predominantly Negro land-grant colleges in the same States. The complaints of the Negro land-grant colleges against the Department of Agriculture are not new. Historically the most neglected functions of the Negro land-grant colleges have been research and extension and the Department of Agriculture is the chief Federal source for such funding. In 1939 the President's Advisory Committee on Education commented:

> *The most liberal interpretation that can be made of the situation indicates that the Negro has been discriminated against in the administration of the Smith-Lever Act in the South and that this discrimination has occurred in spite of the fact that there was sufficient basis in the legislation for the Department of Agriculture to have prevented it.*

Not only are the Negro land-grant colleges discriminated against in terms of Federal aid, but in terms of State aid as well. (This is especially a critical problem because the predominantly Negro public colleges traditionally have received a greater portion of their income from State aid than from any other source—about 50 percent as compared to only 40 percent for all other public institutions.) A report of the National Association of State Universities and Land-Grant Colleges shows that 16 predominantly white land-grant institutions receive $450 million in State appropriations—*almost nine times* the figure of $52.3 million received by the Negro land-grant colleges in the same States. It must be remembered that enrollment in the predominantly white land-grant institutions is only about 5½ times that of the predominantly Negro land-grant institutions.

Reflecting the above, a few examples include: The Texas State Legislature appropriated $37.2 million for the operation of Texas A&M, the predominantly white land-grant institution in the State. The appropriation for Prairie View A&M was only $4.5 million. Thus, although Texas A&M has an enrollment of only slightly more than three times that of Prairie View A&M, it received *more than eight times* as much in State aid. And so, just as in the case of Federal aid, the list of cases where State aid favors the white institutions continues.

FEDERAL AND STATE AIDS TO PREDOMINANTLY WHITE AND NEGRO LAND-GRANT COLLEGES

INSTITUTIONS	1968 Enrollment	Ratio of White to Negro	Fiscal Year 1968 Federal Aid (thousands)	Ratio of White to Negro	1969-70 State Aid (thousands)	Ratio of White to Negro
Auburn U. *Alabama A&M*	14,422 2,076	6.9:1	$ 9,065 861	10.5:1	$ 18,161 2,328	7.8:1
U. of Arkansas *Arkansas AM&N*	11,620 3,445	3.4:1	10,094 1,484	7.0:1	17,860 2,680	6.6:1
U. of Delaware *Delaware State*	12,810 909	14.1:1	4,527 526	8.6:1	11,977 1,988	6.0:1
U. of Florida *Florida A&M*	21,300 4,508	4.7:1	31,757 932	34.1:1	60,700 6,690	9.1:1
U. of Georgia *Ft. Valley State*	21,162 2,103	10.1:1	19,601 820	23.9:1	41,800 2,071	20.1:1
U. of Kentucky *Kentucky State*	21,331 1,605	13.2:1	17,082 390	43.9:1	47,207 2,170	21.8:1
Louisiana State U. *Southern U.*	31,900 9,979	3.2:1	9,374 3,177	2.9:1	40,508 9,172	4.4:1
Maryland	*		*		*	
Mississippi State *Alcorn A&M*	9,706 2,105	4.6:1	8,841 651	13.6:1	10,601 1,636	6.5:1
U. of Missouri *Lincoln U.*	44,683 2,094	21.2:1	21,958 396	55.5:1	45,611 2,680	17.0:1
North Carolina State *North Carolina A&T*	13,758 3,781	3.6:1	13,916 1,409	9.9:1	32,185 4,087	7.9:1
Oklahoma State *Langston U.*	17,581 1,334	13.1:1	9,879 610	16.1:1	19,004 849	22.4:1
Clemson U. *South Carolina State*	6,839 2,001	3.5:1	5,730 486	11.8:1	11,184 3,966	2.8:1
U. of Tennessee *Tennessee A&I*	30,771 4,526	6.8:1	23,616 2,072	11.3:1	29,561 4,198	7.0:1
Texas A&M *Prairie View A&M*	12,967 4,030	3.2:1	14,711 2,860	5.1:1	37,180 4,436	8.5:1
VPI *Virginia State*	10,280 6,896	1.5:1	7,597 1,500	5.0:1	18,696 3,342	5.6:1
TOTALS	282,889 51,657	5.5:1	$190,242 $ 18,164	~~[illegible]~~ 11.0:1	$449,920 $ 52,317	~~[illegible]~~ 8.6:1

*Separate figures not available.

(Italics indicate predominantly Negro land-grant colleges)

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North Carolina State, which has less than 3½ times the enrollment of North Carolina A&T, received *almost eight times* as much State aid. Virginia Polytechnic, with only 1½ times the enrollment of Virginia State, received *more than 5½ times* State aid. The University of Arkansas, with less than 3½ times the enrollment of Arkansas AM&N, received *more than 6½ times* as much State aid. The University of Georgia, with 10 times the enrollment of Fort Valley, received *20 times* as much State aid. Louisiana State University, with slightly more than three times the enrollment of Southern University, received *more than five times* as much State aid. The University of Florida, with less than five times the enrollment of Florida A&M, received more *than nine times* as much State aid.

When totaled, Federal and State aid to the predominantly white land-grant institutions runs approximately $650 million a year. Aid to the predominantly Negro land-grant colleges in the same States is only slightly more than $70 million. Thus, although the predominantly white land-grant colleges enroll only about 5½ times as many students, combined Federal-State aid equals *more than nine times* as much. Federal aid is 11 times as much and State aid is more than 8½ times as much.

Total Federal aid would be considerably more disproportionate if it were not for the grants and contracts of agencies other than those who administer so-called "formula" funds (Morrill-Nelson, Hatch, Smith-Lever, Bankhead-Jones, etc.). Formula funds to white land-grant institutions in Fiscal Year 1967 amounted to $59.3 million as compared to only $1.4 million to the Negro land-grant colleges—a ratio of 43 to 1.

Looked at another way, total Federal-State aid equals almost $2,300 per student in the predominantly white land-grant institutions but less than $1,365 in the predominantly Negro ones—less than 60 percent the per capita aid to students in the white institutions. While shocking enough in these terms, the total dollar gap is one of almost $580 million. By source, the per capita Federal and State aids are $705 and $1,591 respectively for the student in the predominantly white land-grant college but only $352 and $1,013 for the student in the predominantly Negro land-grant college—only 50 and 64 percent, Federal and State respectively, of the per capita in the white schools.

Discriminated against by both Federal and State governments, the Negro land-grant colleges are in deep financial trouble. Their most pressing needs, by the estimation of their presidents, are for student aid ($3.6 million); fellowships for faculty members ($1.3 million); research funds ($1.8 million); new facilities ($94.8 million); renovation of existing buildings ($30.6 million); and increased operating funds ($1.3 million), primarily for upgrading of staff. Especially is the need critical for student aid, faculty, and facilities. The majority of students come from families where the average income is less than $4,000 a year. The average salary for faculty at Negro land-grant colleges is less than 95 percent of that of faculty at white land-grant colleges. Moreover, the lack of sufficient faculty members and adequate facilities accounts for having to deny admittance to many otherwise qualified students. Last year, of nearly 14,800 students who applied, only 6,800 were admitted.

By conservative estimate, it would take approximately $125 million just to "catch up" in the above areas. Even at that, the needs may be understated. Earl J. McGrath, in his book, *The Predominantly Negro Colleges and Universities in Transition* (New York: Columbia University, 1965), states:

> *. . . anyone who thinks that a significant percentage of [Negro colleges] can be substantially helped by an expenditure of a few million dollars sadly deludes himself. The presently predominantly Negro colleges will need several hundred million dollars in the next five or ten years merely to keep step with the growing needs of their potential student bodies and the unprecedented advancements in higher education. . . . Anything less than such efforts will result in continuing restrictions nearly as demeaning and privational as segregation itself.*

In today's world, in which the role of quality education for all men has come to be recognized as the foundation on which our national future lies, the time is at hand for a first hard look at one of the Nation's most neglected resources—its Negro land-grant colleges. In whatever form and on whatever ethnic basis they function in the future, their immense potential for enrichment of the country must be brought to fruition. Understaffed, underfinanced, overlooked for far too long, Negro land-grant colleges must become a national priority among educational and social goals. Their renaissance is a necessity to the country; it must be expedited with every ability at our command.

WILLIAM PAYNE

Mr. Payne is a Program Analyst for the Office of Civil Rights Program and Policy of the U.S. Commission on Civil Rights.

(Excerpts from)

HARD TOMATOES, HARD TIMES

The Failure of the Land Grant College Complex

Written by Jim Hightower

Preliminary Report
of the Task Force on
the Land Grant College Complex

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AGRICULTURAL COLLEGES

Any type of survey in depth of the agricultural situation demands focusing on our agriculture colleges, as they are and have been the seedbed that nourishes our agricultural talent. Close inspection of these institutions does not put much joy in the heart of the investigator.

Behind these hallowed walls lies an almost unbelievable chaos. You learn that the term colleague means the SOB down the hall, that the caste system is the accepted way of life, that tenure, paycheck, and career are the most important things in their life, that they are the most rested group you will ever meet, that they are without responsibility as they are "experimental," which in turn excuses them from being objective. Yet they treat subjectivity as if it were subversiveness.

And when a farmer finally screws up enough courage to personally call on one of these public servants, he invariably leaves more confused and disillusioned than when he arrived, feeling in his heart that, perhaps, he should have spent this day sweeping down cobwebs in the hoghouse. At least he would have rid himself of cobwebs rather than have acquired them.

Ira Dietrich
POOR DAMN JANETH

-PREFACE-

This preliminary report is an independent examination of America's land grant college-agricultural complex, focused on the work of colleges of agriculture, agricultural experiment stations and state extension services. The message of the report is that the tax-paid, land grant complex has come to serve an elite of private, corporate interests in rural America, while ignoring those who have the most urgent needs and the most legitimate claims for assistance.

The report has no destructive aims. It is the objective of the Task Force to provoke a public response that will help realign the land grant complex with the public interest. In a recent speech on re-ordering agricultural research priorities, the Director of Science and Education at the U.S. Department of Agriculture (USDA) said that, "the first giant steps are open discussion and full recognition of the need."[1] This report is dedicated to that spirit.

The Task Force recognizes that "public interest" is not something that is carved on stone tablets. Rather it is the variable result of a process, not a particular set of goals and values. Public interest is only served when all legitimate interests are assured a reasonable chance to be heard on a particular issue and to compete for scarce resources. The President of the National Farmers Union expressed this well in an address on the subject of land grant research:

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[1] Dr. Ned Bayley. "Agricultural Research: Arrows in the Air." Speech before Division of Agricultural Chemistry, American Chemical Society. New York, N.Y. September 10, 1969, p. 15. Available from USDA Office of Information.

> If we have learned one thing in America it is that implementation of the democratic ideal requires democratic participation. Our young people talk much of participatory democracy. Minorities demand the right to take part in decisions that affect their lives. When planners do not represent the public, the program is not likely to represent the public interest.[2]

This examination of America's land grant college complex is not intended to be a total rejection of that agricultural system. In fact, there is much to commend its efforts. Conceptually, and even to some extent structurally, it is designed to reach people, particularly to assist rural Americans in their work and in their lives. There are many individuals within this agricultural complex who are at work every day in an earnest application of the historical concepts of the land grant colleges.

For the most part, information contained in the report is taken from public information produced by the system itself, from reports in the agricultural press and from interviews with people involved in the land grant complex.

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[2] Tony T. Dechant. Address before NASULGC. Chicago, Illinois. November 11, 1969, p. 9. Available from National Farmers Union, Denver, Colorado.

This preliminary report is the product of research that has been underway for about six months through the Agribusiness Accountability Project's "Task Force on the Land Grant College Complex." In addition to research conducted in Washington and by correspondence, the Task Force effort included research on the campuses of the University of California, Cornell University, University of Florida, Iowa State University, University of Maryland, Michigan State University, North Carolina State University, Purdue University, and Texas A & M University.

The Agribusiness Accountability Project particularly appreciates the cooperation given this research effort by officials in USDA and by officials and staff at the campus level of the land grant complex.

-GLOSSARY-

TERMS, CONCEPTS AND ACRONYMS

AGRIBUSINESS. A corporate aggregation that includes: (1) agricultural in-put firms, (2) agricultural out-put firms, (3) corporations directly involved in farming and (4) corporations indirectly involved in farming.

AGRICULTURAL EFFICIENCY. The concept of minimizing agricultural production costs by substituting capital, machinery, chemicals and other technological and financial in-puts for the more traditional farming in-puts.

AGRICULTURAL IN-PUT INDUSTRY. An aggregation of firms that supply seed, feed, farm machinery, fertilizer, chemicals, credit, insurance and other factors of agricultural production.

AGRICULTURAL OUT-PUT INDUSTRY. An aggregation of corporate middlemen between the farmer and the consumer, including those firms that pack, process, can, package, distribute, market, advertise, retail and otherwise handle food and fiber after it leaves the farm.

AGRICULTURAL RESEARCH SERVICE (ARS). USDA's in-house research agency, conducting agricultural research at the federal level, based on USDA's perception of national and regional research needs.

COOPERATIVE STATE RESEARCH SERVICE (CSRS). The USDA agency that administers federal research money allocated to state agricultural experiment stations by statutory formula. In addition, CSRS administers a relatively small amount of non-formula funds, expending them through research contracts made with the stations.

CURRENT RESEARCH INFORMATION SYSTEM (CRIS). A USDA data bank containing computerized information on research projects conducted at state agricultural experiment stations.

EXTENSION SERVICE (ES). The national network of extension agents and administrators. The FEDERAL EXTENSION SERVICE (FES) is the USDA agency that administers national funds for extension work. The COOPERATIVE EXTENSION SERVICE (CES) is the usual designation of any state extension service.

FAMILY FARM. A farm that is controlled and worked by the family that lives on the farm. Financial risk, managerial decisions and work on the farm are direct responsibilities of the family, which exercises full, entrepreneural authority.

LAND GRANT COLLEGE COMMUNITY. Includes people directly involved in the land grant college complex at the campus level, in government and in agribusiness. This is a community of shared interests, involving teachers, researchers, administrators, students, governmental officials relating to the complex and agribusiness organizations with a proprietary interest in the work of the complex.

LAND GRANT COLLEGE COMPLEX. The agricultural component of the land grant university system. The complex includes colleges of agriculture, agricultural experiment stations and extension services. Engaged in teaching, research and dissemination of knowledge in all 50 states, the complex accounts for an annual, public expenditure approaching $750 million.

LAND GRANT COLLEGE SYSTEM. The higher educational system created under the Morrill land grant act. It includes 69 land grant universities, ranging from M.I.T. to the University of California and teaching everything from nuclear physics to Chaucer. Included in this extensive, educational system is the land grant college complex, which is focused on agriculture.

NATIONAL ASSOCIATION OF STATE UNIVERSITIES AND LAND GRANT COLLEGES (NASULGC). A Washington-based organization representing 118 public institutions of higher education, including all 69 land grant colleges. NASULGC's Division of Agriculture represents agricultural college deans, heads of agricultural experiment stations and deans of extension. The division is operated by and for the land grant complex. The NASULGC division is a powerful spokesman for the complex and is directly involved in development of agricultural research priorities for the country.

PEOPLE-ORIENTED RESEARCH. A USDA term referring to research focused directly on people, rather than on production, marketing, efficiency or some other aspect of agriculture. The term includes 12 research problem areas: food consumption habits, food preparation, human nutrition, clothing and textile care, family financial management, rural poverty, economic potential of rural people, communications among rural people, adjustment to change, rural income improvement, rural institutional improvement and rural housing.

RESEARCH PROBLEM AREAS (RPA). A series of USDA classifications for agricultural research projects. Allocations of money and scientific man years are categorized under these RPAs.

STATE AGRICULTURAL EXPERIMENT STATIONS (SAES). The agricultural research component of each land grant college.

SCIENTIFIC MAN YEARS (SMY). A measurement of scientific, technical and other time expended on research projects. The measurement is based on a standardized formula, and allocations of SMY are reported through CRIS.

UNITED STATES DEPARTMENT OF AGRICULTURE (USDA). The department with primary federal responsibility for oversight of the land grant college complex.

VERTICAL INTEGRATION. The movement of agricultural in-put and out-put firms into the production stage of food and fiber. The movement can be direct, as when a processing plant buys or leases land to produce commodities for its processing operation. It can be indirect, as when an agribusiness firm contracts with a farmer to produce a certain quantity and quality of a certain commodity at a certain time and for a certain price. In both cases, a degree of control over food and fiber production passes from farmers to agribusiness corporations.

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-INTRODUCTION-

THE OBVIOUS FAILURE

> Although agriculture has been and will continue to be the economic and social base of rural America, our rural population is becoming largely a nonfarm one. By 1980, only one rural resident in seven or eight may live on a farm. It is generally agreed that it is neither socially desirable nor economically feasible to try to arrest or even slow down this trend. (emphasis supplied)
>
> USDA-NASULGC, 1966[3]

Although the land grant college complex[4] was created to be the people's university, to reach out to serve the various needs of a broad rural constituency, the system has, in fact, become the sidekick and frequent servant of agriculture's industrialized elite.

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[3] USDA and National Association of State Universities and Land Grant Colleges (NASULGC). "A National Program of Research for Agriculture." Report of a study sponsored jointly by USDA and NASULGC for submission to the Senate Committee on Appropriations. October, 1966, p. 158.

[4] As used throughout this report, "land grant college complex" denotes three interrelated units, all attached to the land grant college campus:

A. Colleges of Agriculture--created in 1862 and 1890 by two separate Morrill Acts.

B. State Agricultural Experiment Stations--created in 1887 by the Hatch Act for the purpose of conducting agricultural and rural research in cooperation with the Colleges of Agriculture.

C. Extension Service--created in 1914 by the Smith-Lever Act for the purpose of disseminating the fruits of teaching and research to the people in the countryside.

Agriculture's preoccupation with scientific and business efficiency has produced a radical restructuring of rural America, and consequently of urban America. There has been more than a "green revolution"[5] out there--in the last thirty years there literally has been a social and economic upheaval in the American countryside. It is a protracted, violent revolution, and it continues today. The land grant college complex has been the scientific and intellectual progenitor of that revolution.

At least since World War II, the land grant colleges of this country have put their tax-supported resources almost solely into efforts that primarily have worked to the advantage and profit of large corporate enterprises, particularly the huge corporate farms and ranches, the vertically-integrated and conglomerate corporations in agricultural production, the seed, feed, chemical, credit, machinery and other "in-put" industries, and the processing, packaging, marketing, distributing, retailing, exporting and other "out-put" industries.

The basis of land grant teaching, research, and extension work has been that "efficiency" is the greatest need in agriculture. Consequently, this agricultural complex has devoted the overwhelming share of its resources to mechanize all aspects of agricultural production and make it a capital-intensive industry; to increase crop yield per acre through genetic manipulation and chemical application; and to encourage "economies of scale" and vertical integration of the food process. It generally has aimed at transforming agriculture from a way of life to a business and a science, transferring effective control from the farmer to the business executive and the systems analyst.

---

[5] The "green revolution" is the popular label for the increased productivity that has come from hybrid crops, agricultural chemicals, and farm mechanization.

On the one hand, this focus on scientific and business efficiency has led to production (and over-production) of a bounty of food and fiber products, and, not incidentally, it certainly has contributed to the enrichment of an agribusiness few.

On the other hand, there have been far-reaching side effects of the land grant college's preoccupation with the "green revolution." As statistics indicate, and as visits to the countryside make clear, rural America is crumbling. Not just the family farm, but every aspect of rural America is crumbling--schools, communities, churches, businesses and way of life.

Rural America in Crisis: Off the Land and Into the Cities

- 47.1 percent of the farm families in this country have annual incomes below $3000

--more than half of the farms in the country have sales of less than $5,000 a year; together, this majority of farmers accounted for only 7.8 percent of farm sales

--since 1940, more than 3 million farms have folded, and farms continue to fold at a rate of 2,000 a week

--the number of black farm operators fell from 272,541 in 1959 to 98,000 in 1970

--for the first time since the nation was settled coast to coast, about a hundred years ago, the farm population has fallen below 10 million

--during the 1960's, the proportion of farm people over 55 years of age rose by a third, while the proportion of those under 14 years of age declined by half

--hired farm workers in 1970 averaged an income of $1,083 if they did farm work only, while those who also did some nonfarm work averaged an income of $2,461

--14 million rural Americans exist below a poverty income, with millions more clinging just on the edge of poverty

--independent, small-town businesses are closing at a rate of more than 16,000 a year

--132 rural counties have no doctor

--30,000 rural communities are without central water systems; 30,000 are without sewer systems

--2.5 million substandard houses are occupied by rural families; that is 60 percent of the bad housing in America

--64 percent of all rural counties lost population during the sixties

--entire rural communities are being abandoned

--since 1940, 30 million people have left their rural homes for urban areas, and this migration continues at a rate of 800,000 a year

--more t[illegible]3 percent of the American people live now on les[illegible]n two percent of the land

Response of the Land Grant College Complex

Despite the obvious need, the land grant college complex, which is the public's primary investment of intellectual and scientific resources in rural America, has failed to respond. Lauren Soth, a close ally of land grant colleges and an editor of the Des Moines Register and Tribune, bemoaned this fact in a recent article:

> The land-grant universities continue to devote the overwhelming portion of their research and educational funds to the promotion of agricultural technology and the service of the highest income farmers. They have not yet given anywhere near the attention in either research or education to the problems of the bypassed poor farmers and bypassed rural communities that their numbers justify--to say nothing of help on the basis of need.[6]

In fiscal year 1969, a total of nearly 6,000 scientific man-years were spent doing research on all projects at all state agricultural experiment stations.[7] Based on USDA's research classifications, only 289 of those scientific man-years were expended specifically on "people-oriented" research. That is an allocation to rural people of less than five percent of the total research effort at the state agricultural experiment stations.

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[6] Lauren Soth. "The End of Agrarianism: Fission of the Political Economy of Agriculture." American Journal of Agricultural Economics. Vol. 52, No. 5. December, 1970, p. 665.

[7] USDA Science and Education Staff. "Inventory of Agricultural Research, fy 1969 and 1970." Vol. II. Table IV-D-O. October, 1970, p. 250.

The other 95 percent has been concentrated on projects that steadily are creating an automated, integrated and corporatized agriculture. The primary beneficiaries are agribusiness corporations. These interests envision rural America solely as a factory that will produce food, fiber and profits on a corporate assembly-line extending from the fields through the supermarket checkout counters.

There is great wealth to be made from rural America. Consumers spent $114 billion for food in 1970. In fact, agriculture is the biggest industry in the country--bigger than the automobile industry, the defense industry, or the electronics industry. With 4.5 million workers in 1969, agriculture employs more people than the combined total of the transportation, steel and automobile industries. One out of every nine dollars in the Gross National Product is accounted for by the food industry.

But that money is not staying in rural America. Only a third of the consumer's food dollar is pocketed by farmers, and the independent family farmers are getting a small portion of that. The rest of it flows to the cities, with a major chunk going to corporate headquarters in New York, in Atlanta, in Nashville, in Kansas City, in Chicago, in Houston, in Denver, in San Francisco and in other urban centers of agricultural power.

Increasingly, agricultural production is vertically-integrated, markets are concentrated and dinner is prepackaged by corporate America. IT&T serves up Gwaltney ham and Wonder Bread. The turkey comes from Greyhound Corporation's Armour division. Dow Chemical brings the lettuce, while Tenneco provides fresh fruits. Count on Boeing for the potatoes and American Brands for Motts apple sauce. Coca Cola serves orange juice and coffee and, for dessert, there are strawberries from Purex.

Agribusiness corporations such as Ralston Purina, Del Monte, Tropicana and Safeway are taking control of agricultural production, reducing farmers to contract laborers. Commodity after commodity is being grown under vertically integrated contract, including 95 percent of the broilers, 75 percent of processed vegetables, 70 percent of citrus, 55 percent of turkeys, 40 percent of potatoes and 33 percent of fresh vegetables.[8] Those percentages are increasing every day as corporate power takes hold of rural America, expropriating power and profits.

Profits and power are not all that go to the cities. People go, too. They go unwillingly and they go unprepared. Ironically, they are the waste products of an agricultural revolution largely designed within a land grant college complex originally created to serve them. Today's urban crisis is a consequence of failure in rural America. The land grant college complex cannot shoulder all the blame for that failure, but no single institution--private or public--has played a more crucial role.

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[8] Dr. Don Paarlberg. "Future of the Family Farm." Address before Milk Producer's Federation. November 30, 1971. USDA, p. 10.

The land grant complex has been eager to work with farm machinery manufacturers and with well-capitalized farming operations to mechanize all agricultural labor, but it has accepted no responsibility for the farm laborer who is put out of work by the machine. The complex has worked hand in hand with seed companies to develop high-yield seed strains, but it has not noticed that rural America is yielding up practically all of its young people. The complex has been available day and night to help nonfarming corporations develop schemes of vertical integration, while offering independent, family farmers little more comfort than "adapt or die."[9] The complex has devoted hours to create adequate water systems for fruit and vegetable processors and canners, but 30,000 rural communities still have no central water system for their people. The complex has tampered with the gene structure of tomatoes, strawberries, asparagus and other foods to prepare them for the steel grasp of the mechanical harvestors, but it has sat still while the American food supply has been liberally laced with carcinogenic substances.

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[9] Statement by Dr. Earl L. Butz, former Dean of the College of Agriculture at Purdue University, currently U.S. Secretary of Agriculture. Quoted in The Record Stockman, March 10, 1955.

It is remarkable that this imbalance continues year after year, while rural America crumbles and urban America seethes, without any public figure taking a hard look at the investment. It is indicative of national leadership's general failure in rural America that this society continues to pour billions of dollars into the land grant complex without questioning the total impact of the expenditure.

In 1966, USDA and land grant spokesmen said: "It is generally agreed that it is neither socially desirable nor economically feasible to try to arrest or even slow down this trend [of a steadily declining farm population]."[10] Who "generally agreed" on this? Did they check with the one million more farmers expected by USDA to fold between now and 1980?[11] What about tens of thousands of small-town businessmen who will have to board up their stores as those farmers pull out?[12] There would not likely be general agreement among the residents of the rural towns that will wither and die, nor by the millions of people who will be rural refugees in alien cities.

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[10] USDA-NASULGC. Op. cit., p. 158.

[11] The Washington Post. "Study Sees Huge Drop in Number of Farms." July 12, 1971.

Yet, no one in a position of leadership questioned this basic assumption of land grant college policy. In the five years since that statement, half a million farms have gone out of business[13] and some three to four million people have migrated from their rural homes.[14] But the land grant college complex apparently does not perceive this as a crisis. If those four million people leaving rural America had been four million corn-borers entering rural America, the land grant community would have rung all alarms, scurried into the labs and rushed out with an emergency action program to meet the "crisis."

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[12] This figure is an estimate based on a National Farmers Union study that showed one small town businessman closing for every six farmers that folded. Thus, if a million farms fold by 1980, some 166,000 small businesses could be estimated to close in the same period.

[13] USDA Statistical Reporting Service. "Trend to Fewer and Larger Farms Continues." Press release from Washington, D.C. office, January 12, 1972. Number of farms in 1966 was 3,239,000; number of farms in 1972 estimated to be 2,831,000--a decline of 508,000 farms in five years.

[14] Based on a non-metropolitan to metropolitan area migration rate that has fluctuated roughly between 600-800 thousand people a year during the 1960's.

The American public has a right to expect better from the land grant college complex. The total complex--the colleges of agriculture, the agricultural experiment stations and the state extension services--receive annually an appropriation that is approaching three quarters of a billion tax dollars, including Federal, state and county appropriations. The public has a right to expect that those intellectual and scientific resources be more than a subsidy for corporate agribusinesses.

The land grant colleges must get out of the corporate board rooms, they must get the corporate interests out of their labs, and they must draw back and reassess their preoccupation with mechnical, genetical and chemical gadgetry. The complex must, again, become the people's university--it must be redirected to focus the preponderance of its resources on the full development of the rural potential, helping to make the American countryside a place where millions of people can live and work in dignity.

-CHAPTER I-

AN OVERVIEW OF THE LAND GRANT COLLEGE COMPLEX

> An institution is to be opened for the
> good it can do; for the people it can
> serve; for the science it can promote;
> and for the civilization it can advance.
>
> William Oxley Thompson, 1912[15]

To understand the land grant complex today requires a look at what it promised to be when it was created. The complex that has become a handmaiden of corporate agribusiness began as an institution of the people.

Historical Perspective

1862 was a landmark year for agriculture. In that one year, Congress enacted (1) the Homestead Act, which opened up the "trans-Mississippi" West to settlement by providing 160 acres of public land free to anyone who would settle his section and cultivate it for at least five years; (2) legislation creating the Department of Agriculture, although it would not be elevated to cabinet status until 1889; and (3) the Morrill Land Grant Act, providing an endowment of public land (or its monetary equivalent) to each state that would earmark the income from this endowment for the establishment and support of agricultural and mechanical colleges.

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[15] Edward Danforth Eddy. Colleges for Our Land and Time. Harper Brothers. New York, 1956, p. 269.

Each of these acts partially was the product of the "Westerners," who lived in the section of the country that is today's Mid-West and still is considered the farm belt--Ohio, Indiana, Illinois, Michigan, Wisconsin, Iowa and Minnesota. Farmers were the majority and the dominant economic class there, and they generally had their way politically. The West was the most democratic section of the country at the time, but as historian T. Harry Williams put it, "It was a capitalistic, property-conscious, middle-class kind of democracy."[16] This was the democracy of the small capitalist versus the Eastern aristocracy of concentrated wealth and the plantation aristocracy in the South.

The Morrill Acts of 1862 and of 1890, the Hatch Act of 1887, and the Smith-Lever Act of 1914, are the legislative foundations of today's land grant college complex--teaching, research and extension (see Appendix A for a more thorough presentation of these and other land grant laws). In the context of the times, each of these land grant functions was designed to serve a majority of rural Americans and to meet a wide range of rural needs. It was not intended in any of these acts that the complex would be the servant primarily of the most affluent agricultural enterprises or that the system would focus narrowly on any one particular thrust in agriculture.

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[16] T. Harry Williams, Richard N. Current, and Frank Freidel. A History of the United States, to 1876. Alfred A. Knopf. New York, 1960, p. 469.

MORRILL ACT OF 1862

The Morrill Act recognized both that the common man could make good use of university education and that science was coming to farming. Like the agrarians who pressed for their creation, these "people's universities" were to be democratic and pragmatic--as Lauren Soth wrote, "The tillers of the soil were going to have their own colleges and their own departments of agriculture."[17]

At the time of enactment of the Morrill Act, America was a very rural country, and farming was the domain of the little man. Rural territory accounted for 80 percent of the 1860 population of 31,443,321.[18] Out of 4,009,000 that existed in the United States about this time, 97 percent were under 260 acres, with only 29 farms in the entire country as large as 1,000 acres.[19] In 1860,

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[17] Lauren Soth. Op. Cit., p. 663.

[18] U.S. Bureau of the Census. Historical Statistics of the United States. Washington, D.C., 1960, p. 14.

[19] Ibid., p. 279.

59 percent of the total labor force was engaged in agriculture.[20]

This was the general setting when U.S. Representative Justin Smith Morrill, a Whig from Vermont, introduced legislation for land grants in the late 1850's. In 1859, legislation was approved by Congress over some objections. Critics called it a raid on the Treasury and warned that it would lead to land speculation (which later proved a justified concern). President Buchanan vetoed the bill for several reasons, ranging from cost to states' rights. In 1861, with the South no longer in Congress and the nation at war, Morrill again introduced his legislation, which was passed in 1862 and sent to President Lincoln. Facing re-election and needing support in his native Mid-West, a hotbed of anti-war sentiment, Lincoln signed the Act.

Writing a century later, Henry Brunner of the U.S. Office of Education noted that the legislation itself and Representative Morrill's statements made it clear that the purpose embodied in the Act included "a protest against the then characteristic dominance of the classics in higher education" and "a desire to develop, at the college level, instruction relating to the practical activities of life."[21]

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[20] Ibid., p. 74.

[21] Henry S. Brunner. Land-Grant Colleges and Universities: 1862-1962. U.S. Office of Education. Washington, D.C. 1962, 1966, p. 3.

HATCH ACT OF 1887

In their early years, the land grant institutions primarily were trade schools, focusing on the rudiments of farming and offering such courses as "How to Plow." But the colleges clearly had a mandate to teach the "science of agriculture," and they took the leadership in bringing new ideas, methods and techniques to the people of rural America.

By the mid-1880's, some 40 land grant institutions existed, and the administrative heads of these colleges already had come together in a loose association. Their first cooperative action was a campaign for passage of the Hatch Act of 1887, which authorized federal funds for direct payment to each state that would establish an agricultural experiment station in connection with its land grant college. In this legislation, Congress first codified the mandate of the land grant colleges to meet the needs of a broad constituency. It directed the research stations to:

> conduct original and other researches, investigations, and experiments bearing directly on and contributing to the establishment and maintenance of a permanent and effective agricultural industry of the United States, including researches basic to the problems of agriculture in its broadest aspects, and such investigations as have for their purpose the development and improvement of the rural home and rural life and the maximum contribution by agriculture to the welfare of the consumer. (emphasis supplied)[22]

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[22] Hatch Act of 1887, Section 2.

By 1890, the colleges were full-fledged educational institutions and had outgrown their ability to operate from endowment income. State support was inadequate to make up the difference. Justin Morrill, now a Senator from Vermont, was ready with a second Morrill Act, this one to provide an annual appropriation, apportioned by formula, to support teaching at the colleges. This second Act made one other addition to the system--it provided money for creation of land grant colleges for blacks.

COLLEGES OF 1890: THE DEEP, DARK SECRET

In 1862, at the time of the first Morrill Act, 90 percent of America's black population was in slavery.[23] The land grant colleges that developed were white bastions, and even after the Civil War, blacks were barred from admission both by custom and by law. When the second Morrill Act was passed in 1890, primarily to obtain more operating money for the colleges, Congress added a "separate but equal" provision authorizing the establishment of colleges for blacks. Seventeen Southern and Border states took advantage of the Act, creating institutions that still are referred to euphemistically as "colleges of 1890."

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[23] William Payne. "The Negro Land-Grant Colleges." Civil Rights Digest. Vol. 3, No. 2, Spring 1970, p. 12.

The black colleges have been less than full partners in the land grant experience. It is a form of institutional racism that the land grant community has not been anxious to discuss. From USDA, resource allocations to these colleges are absurdly discriminatory--Peter Schuck of the Center for Study of Responsive Law, reports that "Of the approximately $76,800,000 in USDA funds allocated to these schools, about 99.5% went to the sixteen white land grant colleges; the 1890 colleges received a grand total of $383,000 (or 0.5%)."[24] As shown in Figure 1, less than one percent of the research money distributed by Cooperative State Research Service (CSRS) to those sixteen states in 1971 went to the black colleges.

This disparity is not by accident, it is by law. The Hatch Act of 1887 provides that Federal research money "shall be divided between such institutions as the legislature of such State shall direct." The McIntyre-Stennis Act, authorizing money for forestry research, gives the power of designation to the governor of each state. The Smith-Lever Act, authorizing funds for extension, also turns the money over to the college selected by the state legislature. Senator Smith himself

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[24] Peter H. Schuck. "Black Land-Grant Colleges: Separate and Still Unequal." Unpublished paper. February 1972, p. 8. Available from Center for Study of Responsive Law, 1156 Nineteenth Street, N.W., Washington, D.C., 20036.

FIGURE 1:

CSRS Distribution of funds to Colleges of 1890 and to predominantly white institutions in the same states

State	Institution	FY 1970	FY 1971
Alabama	Alabama A&M*	$ 18,396	$ 18,396
	Auburn University	1,766,049	1,962,179
Arkansas	Arkansas A&M & Normal*	16,980	16,980
	Univ. of Arkansas	1,486,634	1,644,956
Delaware	Delaware State*	12,413	12,413
	Univ. of Delaware	547,929	605,855
Florida	Florida A&M*	14,946	14,946
	Univ. of Florida	1,070,418	1,205,759
Georgia	Fort Valley State*	18,836	18,836
	Univ. of Georgia	1,918,117	2,138,902
Kentucky	Kentucky State*	19,080	19,080
	Univ. of Kentucky	1,858,134	2,078,901
Louisiana	Southern University*	16,251	16,251
	Louisiana State Univ. & Louisiana Tech	1,337,213	1,487,282
Maryland	Univ. of Md., Eastern Sh.*	14,231	14,231
	Univ. of Md., Coll. Park	962,558	1,082,689
Mississippi	Alcorn A&M*	18,751	18,751
	Mississippi State Univ.	1,830,043	2,048,632
Missouri	Lincoln Univ.*	18,239	18,239
	Univ. of Missouri	1,718,465	1,950,328
North Carolina	North Carolina A&T*	22,424	22,424
	North Carolina St. U.	2,564,966	2,882,386
Oklahoma	Langston Univ.*	15,956	15,956
	Oklahoma State Univ.	1,229,335	1,359,792
South Carolina	South Carolina State*	17,143	17,143
	Clemson University	1,501,523	1,677,593
Tennessee	Tennessee State Univ.*	19,256	19,256
	Univ. of Tennessee	1,908,060	2,127,860
Texas	Prairie View A&M*	21,991	21,991
	Texas A&M Univ. & Stephen F. Austin St.	2,445,273	2,728,487
Virginia	Virginia St. College*	18,107	18,107
	Virginia Polytech. Inst.	1,702,819	1,901,628
Total	Colleges of 1890[1]	$ 283,000	$ 283,000
	Predominantly white[2] Institutions	$25,847,536	$28,883,229

[1] Funds from Public Law 89-106.
[2] Hatch and McIntire-Stennis Act funds.
*Denotes colleges of 1890.

SOURCE: USDA. CSRS.

left little room for doubt concerning the interpretation of these provisions: "We do not...want the fund if it goes to any but the white college."[25]

In 1971, USDA suffered a belated twinge of conscience and accepted a proposal from Representative Frank Evans that $12.6 million be appropriated directly to the black colleges for research and extension. Once the money was appropriated, however, USDA adopted a scheme of "coordination" whereby the white land grant colleges still were in charge of the resources of the black colleges. As Peter Schuck put it in a letter to Secretary Clifford Hardin:

> The core of the new procedure is a "research coordinating committee." Obviously, no responsible person can be against the coordination of research, and the 1890 colleges are no exception. But the RCC, as established by the CSRS guidelines, is less a device for coordinating research between autonomous institutions than an instrument for the effective control by the 1862 colleges of the research funds intended by Congress for the 1890 colleges.[26]

Of course, twelve million dollars, even if under the full control of the black institutions, does not begin to approach the enormous need. If whites in rural America are in trouble, blacks are facing disaster. The median income for black farm families was $3,027 in 1970, compared to $7,016 for white farm families. The number of black-operated farms fell from 559,980 in 1950 to an estimated 98,000 in 1970. During the decade of the 1960's, black people left the sixteen southern states at an annual rate of 140,000--1.4 million for the decade.[27]

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[25] Quoted in: Schuck. Ibid., p. 9.

[26] Peter H. Schuck. Letter to Secretary of Agriculture Clifford M. Hardin. October 14, 1971.

These people need the attention of a land grant complex that is attuned to their needs. But the system does not respond--a hundred years after the first Morrill Act, and 82 years after the second Morrill Act, the system will not let go of even a few million dollars to help the black people in rural America. It is more than their secret; it is their shame.

SMITH-LEVER ACT OF 1914

In 1914, the third major component of the land grant complex was added--the extension service. The Smith-Lever Act of that year authorized Federal appropriations and brought some national coordination to a network of state extension staffs that had been operating for several years. The extension movement was a reflection of an obvious need to take the teachings of the college and the research of the experiment stations directly into the rural areas for the benefit of the people there. The colleges had been attempting some of this work on their own almost from the start of their existence. The extension principal was to go to people where they were, to help them solve problems that they were facing in their work, in their homes and in their communities. As Representative Lever explained to the House in his report on the extension legislation, the extension agent "must give leadership and direction along all lines of rural activities--social, economic and financial."[28]

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[27] All figures from: National Sharecroppers Fund. "Rural Black Economic Development: A Position Paper." Unpublished, 1972, pp. 4 and 6. Available from NSF, 1346 Connecticut Avenue, N.W., Washington, D.C., 20036.

The People's Universities

The rationale for making a public investment in agriculture was to help the little man in rural America; the benefits of research were to be widespread among the farming class. During public discourse leading toward passage of the Hatch Act, advocates for the legislation were quite clear on this point:

> The farmer's work is not big business, they argued, and he needs the assistance of the government where business and commerce do not.[29]

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[28] A People and a Spirit. A report of the Joint USDA-NASULGC Study Committee. Colorado State University. Ft. Collins, Colorado. November 1968, p. 18.

[29] Eddy. Op. cit., p. 96.

Had it been made clear at the outset that the land grant complex was going to become a subsidy for corporate agribusiness, and that the complex would help to eliminate farmers and leave a majority of rural Americans in crisis, it is not likely that it would have been created. The land grant complex, as it is known today, has wandered a long way from its origins.

From the start, the land grant college complex was a scientific undertaking, and its prime supporters were farm groups and individual farmers who "saw their way to prosperity in improved technology."[30] As enacted by Congress and as initially established, the complex was to bring the benefits of science to all farmers and to all rural Americans.

In practice, the colleges quickly established close working relationships with the most productive and wealthiest class of farmers. Those who did not actively seek out the assistance of the system did not receive its assistance. In 1911, the Dean of the College of Agriculture at Cornell University wrote:

> We are now in the midst of a process of the survival of the fit. Two opposite movements are very apparent in the agriculture of the time: certain farmers are increasing in prosperity, and certain other farmers are decreasing in prosperity. The former class is

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[30] Soth. Op. cit., p. 664.

> gradually occupying the land and extending its power and influence...notwithstanding that this is the very time when agricultural colleges and experiment stations and governmental departments have been expanding knowledge and extending their influence. The fact is, that all these agencies relieve first the good farmers. They aid first those who reach out for new knowledge and for better things. The man who is strongly disadvantaged by natural location or other circumstances, is the last to avail himself of all these privileges...The failure of a great many farmers may be less a fault of their own than a disadvantage of the conditions in which they find themselves. It is fairly incumbent on the state organization to provide effective means of increasing the satisfaction and profit of farming in the less-fortunate areas as well as in the favorable ones...[31]

The dean was right, but unheeded. In the same year, the Association of American Agricultural Colleges and Experiment Stations sanctioned what already was practice by noting that "It is undoubtedly the duty of our institutions to render service to industry."[32] They have been faithful to that "duty" ever since. During the Depression of the 30's, the complex accepted an invitation to assist government in the development of public policy in agriculture, and that completed the three-way alliance between agricultural science, agribusiness and government. That is the alliance that exists today.

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[31] Dean Liberty Hyde Bailey. Quoted in: Gould Colman. A History of the New York State College of Agriculture. 1962.

[32] Eddy. Op. cit., p. 115.

The Extent of Today's Land Grant Complex

"The Land-Grant Colleges," wrote a historian of the system, "have developed from institutions which were little more than trade schools."[33] Today it is an extensive educational and research system involving much more than agriculture. There are 69 land grant universities (see Appendix B), enrolling 1.5 million students[34] and offering degrees in practically every discipline and profession. These universities include the minimal-agricultural curriculum of Massachusetts Institute of Technology, the multiversity system of the University of California and the urban focus of Federal City College.

Within that extensive university system is the agricultural complex that is the focus of this report--the colleges of agriculture, the agricultural experiment stations and the state extension services.

This land grant agricultural complex is huge, intricate and expensive. Figure 2 offers one example (Purdue University) of the extent of that complex as it exists on campuses today. Over the past few years, the land grant college complex has tapped the public treasury

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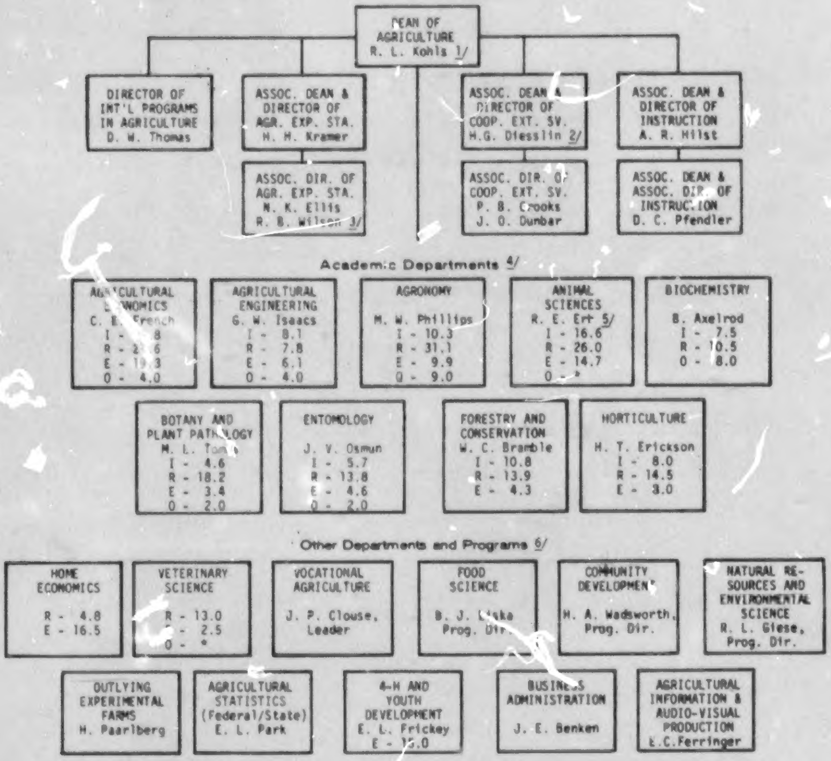
[33] Ibid., p. 280.

[34] Table supplied by NASULGC. "Number and Percent of Enrollment in Institutions of Higher Education... by 4-year, 4-year Public, and Land Grant Colleges: Aggregate United States, Fall 1970."

FIGURE 2:

The Agricultural Complex


DEAN OF AGRICULTURE R. L. Kohls 1/
DIRECTOR OF INT'L PROGRAMS IN AGRICULTURE D. W. Thomas
ASSOC. DEAN & DIRECTOR OF AGR. EXP. STA. H. H. Kramer
ASSOC. DIR. OF AGR. EXP. STA. N. K. Ellis R. B. Wilson 3/
ASSOC. DEAN & DIRECTOR OF COOP. EXT. SV. H.G. Diesslin 2/
ASSOC. DIR. OF COOP. EXT. SV. P. B. Crooks J. O. Dunbar
ASSOC. DEAN & DIRECTOR OF INSTRUCTION A. R. Hilst
ASSOC. DEAN & ASSOC. DIR. OF INSTRUCTION D. C. Pfendler
Academic Departments 4/
AGRICULTURAL ECONOMICS C. E. French I - [illegible].8 R - 2[illegible].6 E - 1[illegible].3 O - 4.0
AGRICULTURAL ENGINEERING G. W. Isaacs I - 8.1 R - 7.8 E - 6.1 O - 4.0
AGRONOMY M. W. Phillips I - 10.3 R - 31.1 E - 9.9 O - 9.0
ANIMAL SCIENCES R. E. Erb 5/ I - 16.6 R - 26.0 E - 14.7 O - *
BIOCHEMISTRY B. Axelrod I - 7.5 R - 10.5 O - 8.0
BOTANY AND PLANT PATHOLOGY M. L. Tom[illegible] I - 4.6 R - 18.2 E - 3.4 O - 2.0
ENTOMOLOGY J. V. Osmun I - 5.7 R - 13.8 E - 4.6 O - 2.0
FORESTRY AND CONSERVATION W. C. Bramble I - 10.8 R - 13.9 E - 4.3
HORTICULTURE H. T. Erickson I - 8.0 R - 14.5 E - 3.0
Other Departments and Programs 6/
HOME ECONOMICS R - 4.8 E - 16.5
VETERINARY SCIENCE R - 13.0 E - 2.5 O - *
VOCATIONAL AGRICULTURE J. P. Clouse, Leader
FOOD SCIENCE B. J. Liska Prog. Dir.
COMMUNITY DEVELOPMENT H. A. Wadsworth, Prog. Dir.
NATURAL RESOURCES AND ENVIRONMENTAL SCIENCE R. L. Giese, Prog. Dir.
OUTLYING EXPERIMENTAL FARMS H. Paarlberg
AGRICULTURAL STATISTICS (Federal/State) E. L. Park
4-H AND YOUTH DEVELOPMENT E. L. Frickey E - 15.0
BUSINESS ADMINISTRATION J. E. Benken
AGRICULTURAL INFORMATION & AUDIO-VISUAL PRODUCTION E.C.Ferringer

1/ All activities of various offices and departments dealing with instruction, research, extension and international programs are responsible through appropriate directors.

2/ Field forces of Extension are directly responsible through this office.

3/ In ch[illegible] of market services and regulatory activities. Lia[illegible] with Lt. Gov. as Commissioner of Agriculture for services at Purdue. Personnel of State Chemist, Egg Board, etc. are attached to the Experiment Station and in academic departments, and report through this office.

4/ F.T.E. data for permanent professional personnel only (1971-72). I - instruction, R - research, E - extension, O - other appointed personnel (usually U.S.D.A., LARS, regulatory). Graduate instructors and post-doctoral personnel not included. Vacancies included. * In these departments, regulatory and diagnostic personnel not enumerated.

5/ Interim department head.

6/ Home Economics and Veterinary Science are departments in Agriculture for research, extension and regulatory activities only. Faculties of Program Directors are from academic departments.

FIGURE 3:

TAX FUNDS APPROPRIATED FOR THE LGC SYSTEM,* BY FUNDING SOURCE, 1969

Federal Taxes:		
Colleges of Agriculture	14,349,719	
Experiment Stations	89,015,000	
Extension Service	80,762,000	
Total Federal		184,126,719
State Taxes:		
Colleges of Agriculture	**	
Experiment Stations	134,254,000	
Extension Service	106,326,281	
Total State		240,580,281+
County Taxes:		
Colleges of Agriculture	0	
Experiment Stations	0	
Extension Service	50,287,525	
		50,287,525
TOTAL		474,994,525***

*These are funds for the Division of Agriculture within all land grant colleges—including the colleges of agriculture, the agricultural experiment stations and the extension services.

**No federal agency or other source available to this Task Force had this figure, but traditionally the states have provided the overwhelming share of instructional funding, so it can be expected that this figure would be at least double the $14 million federal contribution.

***This total is understated considerably because it does not include state money appropriated for instruction (see note above), nor does it include funds derived from the use of appropriations. For example, land grant colleges derived $4,221,607 in 1969 from investment of their original Morrill endowment, and they derived another $15,718,000 from sales of products originating from their tax-supported enterprises.

Sources: Colleges of Agriculture figures taken from U.S. Office of Education, Bureau of Higher Education. "Statistics on Condition of Land-Grant Funds-1969 Report." April 22, 1970.
Experiment Station figures taken from USDA. Science and Education Staff. "Inventory of Agricultural Research, by 1969 and 1970." Volume II. October 1970.
Extension Service figures taken from USDA. Extension Service. "Source of Funds allotted for Cooperative Extension Work...for Fiscal Year Ending June 30, 1969."

each year for 500 to 700 million dollars (see Figures 3 and 4).

Investment of tax dollars in the total land grant complex continues to rise. As shown in Figure 3 the Federal investment in 1969 came to $184,126,719. As shown in Figure 4 the Federal share has jumped 35 percent in the fiscal year 1973 budget, where $249,479,000 is proposed for the land grant functions of teaching, research and extension.

FIGURE 4:

PROPOSED FEDERAL APPROPRIATIONS FOR THE LGC SYSTEM, FY 1973

Colleges of Agriculture	$ 2,600,000	
Experiment Stations	78,778,000*	
Extension Service	168,101,000	
		$249,479,000*

Source: The Budget of the United States Government, FY 1973. Appendix. pp. 125, 127 and 440.

*This figure does not include "other Federal" funds appropriated to other Federal agencies for research that subsequently is contracted out to the experiment stations. In 1969, these funds totalled $27.6 million, and it can be expected that they would total at least that much and probably more in fy 1973.

Other tax support has shown similar increases. The extension service funding, for example, rose from a level of $237.4 million in 1969 to $331.9 million in 1971, reflecting a 23 percent increase in state support and a

19 percent increase in county support.[35] While official figures are not available, it can be estimated that the land grant complex in 1972 is the recipient of something like 650 million tax dollars appropriated from Federal, state and county governments.[36]

But even this appropriated sum is not the full measure of tax support for the land grant complex, for it does not reflect the enormous assets of the system, purchased in earlier years with tax money and used today. Although accurate figures are not available, it is clear that the public's total land grant college investment comes to several billion dollars in any given year, paying for everything from test tubes to experimental farms, from chalk to carpeting in the dean's office.[37]

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[35] USDA. Cooperative Extension Service. "Amount and Percent of CES Funds Available to States...by Source, From FY Beginning July 1, 1914." Form MU-34 (2-71).

[36] This estimate assumes a total Federal appropriation in the neighborhood of $275-300 million (including "other federal"), a total state appropriation in the neighborhood of $300-325 million (including "instructional support"), and a county appropriation in the neighborhood of $50-75 million. That gives a range of $625-700 million.

[37] Admittedly, this is the crudest of estimates. The total public investment in the land grant system either is not known, not reported or not available in a usable form. No one in USDA or in HEW would hazard a guess. If such a figure were available, it would include in any given year public monies used for (1) salaries, wages and related expenses for teaching, research and extension; (2) administrative costs of operating the system; (3) capital outlays for equipment and facilities; and (4) current book value of the plant--classrooms, farms, laboratories, equipment, libraries, livestock and so forth.

Thousands of people are involved in this system. In 1969, professionals, technicians and other workers totalled more than 16,000 man-years of work at the agricultural experiment stations throughout the country.[38] In 1971, the extension services had 15,482 professional employees,[39] a support staff of 10,000 and 11,000 program aides, not to mention an estimated 1,000,000 volunteers.[40]

Colleges of agriculture are the primary producers of agricultural professionals in the country. The colleges enrolled more than 52,000 undergraduates and 16,000 graduate students of agriculture in 1970.[41] Degrees are available in a vast array of subjects--from Agribanking to Entomology, from Agricultural Engineering to Bakery Management.

Farmers no longer are the main focus or product of this educational process--the National Association of State Universities and Land Grant Colleges (NASULGC) reported that only 8.9 percent of nearly 10,000 graduating seniors in 1969 chose to enter farming.[42] College curricula today are directed more and more toward the in-put and out-put businesses of agriculture. As Secretary of Agriculture, Earl Butz said, "At Purdue University, as is true at every agricultural college in the United States, they are engaged in training farm boys and farm girls to take jobs in agribusiness."[43] In a special survey of this year's graduating class, Feedstuffs[44] found that 12 percent of the undergraduates and only two percent of the graduate students intended to go into farming or ranching. On the other hand, they found that 24 percent of the undergraduates and 20 percent of the graduates intended to join agribusiness firms. The remainder of the graduating class intended to enter the military, or pursue graduate study, education, government service or other work. Feedstuffs reported that, in terms of overall career interests in agriculture:

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[38] USDA. Science and Education Staff. Op. cit., Table IV-A-9, p. 242.

[39] USDA. Cooperative Extension Service (CES). "Number of Cooperative Extension Agents, 1971."

[40] USDA. CES. "Extension Service, USDA: Functions, Objectives and Responsibilities." May 1971, p. 3.

[41] NASULGC. Proceedings. Report of the 84th Annual Convention of NASULGC, 1970, pp. 119-121. Available from NASULGC, One Dupont Circle, Washington, D.C., 20036.

> 41.9 percent of their graduates found the sales area most appealing; 13.8 percent leaned toward marketing; 5.2 percent toward administration; 15.4 percent toward technical research and service (primarily graduate degree holders); 18 percent toward

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[42] *Ibid.*, p. 125.

[43] U.S. Senate. Committee on Agriculture and Forestry. "Nomination of Earl Lauer Butz." Hearing, November 17, 1971. GPO, Washington, D.C., p. 6.

[44] *Feedstuffs: The Weekly Newspaper for Agribusiness.* January 17, 1972, p. 1.

> production (primarily engineering students); and 5.9 percent toward some other aspect of agribusiness employment.

The land grant complex today is massive. It reaches into every state, plus Puerto Rico and the District of Columbia, and it has a presence in practically every rural county in America. It is a rich complex, both in terms of money and in terms of intellectual resources. It is a complex with an enormous potential to serve the people of this country. Certainly, it is a resource that rural America desperately needs. But the land grant college complex is a failure. Nowhere is that failure more striking than in the research component.

-CHAPTER VIII-

PUBLIC DISCLOSURE

> Back in 1954 when Organic Gardening and Farming wanted to compare the amount of federal funds, state appropriations and industrial gifts which were available to state agricultural experiment stations, it was possible to turn to the "Report on the Agricultural Experiment Stations" issued every January by the Office of Experiment Stations.
>
> That office doesn't exist any more, and finding the bare facts today is a bit more difficult, if not downright impossible in some cases.
>
> Environment Action Bulletin[279]

Something in the neighborhood of three-quarters of a billion dollars is appropriated each year from national, state and county treasuries to support the teaching, research and extension of the land grant college complex. That complex is having an enormous impact on this country, yet, very little actually is known about it. One dramatic example is the fact that no one knows with any preciseness how much federal, state and local tax money is wrapped up in the complex.

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[279] "Who Pays for Agricultural Research?" Environment Action Bulletin. January 9, 1971, p. 4.

Annual Reports

The Morrill Act, the Hatch Act and the Smith-Lever Act all have specific provisions requiring annual reports on the land grant complex. The Hatch Act, for example, provides that "It shall be the duty of each of said [agricultural experiment] stations, annually, on or before the first day of February, to make to the Governor of the State or Territory in which it is located, a full and detailed report of its operations, including a statement of receipts and expenditures, a copy of which shall be sent to each of said stations, to the said Commissioners of Agriculture, and to the Secretary of the Treasury of the United States."[280] Most agricultural experiment stations comply with this directive, but not all. Oregon State Agricultural Experiment Station, for example, wrote that they do "not publish one in annual form nor does Oregon State University as it is one unit in a state system. The Extension Service also does not publish an annual report."[281]

But even having an annual report may not prove terribly enlightening:

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[280] Hatch Act of 1887. 7 U.S.C. Sections 334, 345.

[281] Oregon State University. Letter to the Agribusiness Accountability Project from Mrs. Brenda Hood, administrative assistant to the president. December 27, 1971.

--Some do not list all research projects, but merely list highlights

--Some list research projects, but only by title, without even a brief description

--Most do not include money figures with the individual projects, and very few reveal the source of the money

--None contain any element of project continuity to show the total tax investment over the years in a particular investigation

--Most contain only a very general financial breakdown, listing state, federal and "other" funds received and expended

--Few offer any breakdown of industry contributions, naming the industry, the contribution and the project funded.

These are basic facts. There is no listing of more esoteric items, such as patents developed by the station and held by the college, or advisory structures surrounding the stations.

Most frustrating is any effort to obtain a national or regional picture from the annual reports. There is no uniformity of reporting--Purdue University's agricultural experiment station offers a relatively thorough breakdown of private contracts and grants, while the University of Wisconsin's annual report failed to give any financial breakdown at all. The Environment Action Bulletin, after attempting to determine how much money big business is pouring into agricultural research, observed in exasperation that "accountability seems to be a matter of conscience with each station."[282] The staff of the Bulletin concluded that "our office calculating machines couldn't help us compare one [report] with the other. We doubt whether a full-fledged computer could, given this sort of information."

Current Research Information System

CRIS, as it generally is known within the land grant community, represents the complex's effort to establish a computerized data bank on research projects. Inquiries to local experiment stations about their research are referred to CRIS in Washington. The service is not as efficient as one might hope. The greatest problem is obtaining up-to-date information. The service publishes an Inventory of Agricultural Research, but the most recent inventory available now is the 1969-70 edition, and USDA is prepared to stand by the accuracy of only the 1969 figures in it.

There are numerous inadequacies in CRIS, not the least of which is the fact that information only is available regularly to USDA and land grant officials.[283]

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[282] "Who Pays for Agricultural Research?" Op. cit., p. 4.

[283] The service is not authorized to charge for printouts, so they are made available only to USDA and land grant officials. However, exceptions are made. Undoubtedly, members of Congress can obtain information from CRIS. Also, on special request by the Agribusiness Accountability Project, CSRS made available four printouts.

But the system remains the most authoritative and thorough source of information available on research projects. Only with a research classification printout, for example, is it possible to perceive the reality of research budgets. For example, only by actually reading project descriptions within research categories can it be discovered that 60 percent of the research underway for "rural housing" really is directed toward the timber and homebuilding industries.

Elsewhere in the Land Grant Complex

There are problems of public disclosure throughout the complex. For example, the Federal Extension Service collects information on the expenditure of county agents' time, but it is not gathered for the purpose of public release. FES considers it the prerogative of state extension services to release their own, more-detailed data. Even if all 50 states were to send their plan of work to an inquirer, it still would be impossible to get a national picture, since there is no uniformity of record-keeping and disclosure. Florida and Indiana, for example, do not use the same categories of "audiences served," nor do they even have the same number of categories. Even a simple matter like agent time spent is measured differently--Florida keeps records in man days, while Indiana uses man hours.

Deep within HEW, down the corridor to the Office of Education, through the Bureau of Higher Education and in the Division of College Support, an annual report is prepared, entitled "Statistics on Condition of Land-Grant Funds." It is a lackadaisical effort--a staff simply collecting forms sent to all land grant colleges and tabulating information from those that are returned. There is no enforcement power over the colleges, no serious review of the information supplied, just tabulation of what comes in. The mimeographed report, which is sent to all land grant colleges (but nowhere else), may or may not be accurate. Certainly the Division of College Support is unwilling to stand by the accuracy of the information, falling back on their role as simple reporters of whatever comes their way. The division does not know how the individual colleges arrive at their figures, nor does it know whether the colleges report all of their receipts and expenditures.

Also within HEW is the National Center for Educational Statistics, which collects more information than the Division of College Support. Unfortunately, that information is computerized and is not programmed to be broken out by land grant colleges. That makes it less than handy for those who want to know something about those colleges.

These are just among the many inadequacies that will confront any person interested in knowing what goes on in the land grant complex. Data is not supplied uniformly, it is not collected in a central location and it either is not reported or is reported in a form that cannot be easily obtained or understood. Even more significant is the fact that many fundamental questions go unasked and fundamental facts go unreported.

Millions of tax dollars annually are being spent by an agricultural complex that effectively operates in the dark. It is not that the land grant community deliberately hides from the public (though some of that goes on), but that the community makes no deliberate effort to reveal itself to the public. The farmer, the consumer, the rural poor and others with a direct interest in the work of the land grant complex can get no adequate picture of its work. Congress is no help; it does not take the time to probe the system, to understand it in detail and to direct its work in the public interest.

The land grant college complex has been able to get by with a minimum of public disclosure, and that has meant that the community has been able to operate with a minimum of public accountability.

-CHAPTER IX-

CONCLUSION AND RECOMMENDATIONS

> In their ability to serve the changing needs of a changing nation the Land-Grant Colleges and Universities have demonstrated their value.
>
> Colleges for Our Land and Time[284]

America's land grant college complex has wedded itself to an agribusiness vision of automated, vertically-integrated and corporatized agriculture. It has accepted corporate agribusiness as an integral part of its community, applying some three-quarters of a billion tax dollars a year to help big business work its will in rural America.

The land grant community has done approximately nothing to extend the benefits of technology and management techniques to the vast majority of farmers and other rural Americans. These farmers, farm workers and small town residents are the source of rural America's strength. They are intelligent and hard working, and they clearly have the desire and the capacity to produce an abundance of good, nutritious food for the American consumer. USDA admits that the one and two man family farm is the most efficient that exists. Such people are a worthy investment--the true heirs to the egalitarian spirit and free enterprise ethic that spawned the land grant complex. But that complex has turned its back on these people and made its bed with corporate interests. It has been a deliberate choice--corporations over people.

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[284] Eddy. Op. cit. p. 286.

There is nothing inevitable about the growth of agribusiness in rural America. While this country enjoys an abundance of relatively cheap food, it is not more food, not cheaper food and certainly not better food than that which can be produced by a system of family agriculture. And more than food rolls off the agribusiness assembly-line--rural refugees, boarded up businesses, deserted churches, abandoned towns, broiling urban ghettos and dozens of other tragic social and cultural costs also are products of agribusiness. "The farmhouse lights are going out all over America," is the way it was put by Oren Lee Staley, president of the National Farmers Organization:

> And every time a light goes out, this country is losing something. It is losing the precious skills of a family farm system that has given this country unbounded wealth. And it is losing free men.[285]

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[285] Oren Lee Staley. Quoted in: Nick Kotz. "U.S. Policy Handcuffs Small Farmer." The Washington Post. October 5, 1971.

Had the land grant community chosen to put its time, its money, its expertise and its technology into the family farm, rather than into corporate pockets, then rural America today would be a place where millions could live and work in dignity.

The colleges have mistaken corporate need as "the changing needs of a changing nation." That is proving to be a fatal mistake--not fatal for the corporations or for the colleges, but for the people of America. It is time to correct that mistake, to reorient the colleges so that they will begin to act in the public interest. It is time that America issued an ultimatum to the land grant complex: "adapt or die."

Recommendations

The land grant college complex must adjust its focus to meet the needs of a rural America in crisis. The complex must be returned to the people, shifting the preponderance of its resources into activities that will make rural America a place where millions of families can both live and make a living.

It is possible to suggest substantive change in the work of the land grant complex. It seems obvious, for example, that there must be a major emphasis in such areas as cooperative marketing structures, access to credit, land reform, housing and community utility systems, technological displacement, food quality and taste, non-chemical pest control, cost of agricultural in-puts, rural health systems and non-farm employment.

But it is not the place of this Task Force to determine the agenda of the land grant complex. That is the proper role of constituencies with a direct interest in the work of the complex--farmers, farm workers, rural businessmen, non-farm laborers, small town officials, the rural poor, big city mayors, consumers, environmentalists and even agribusinessmen.

Today, the complex serves only one constitutency: corporate agribusiness. Others must get into this public complex, and they must get in on an equal footing with corporate executives. But the land grant community will not break off its monogamous relationship with agribusiness simply because it ought to do so. Significant change will come only under pressure.

The recommendations of the Task Force, therefore, are directed toward opening this closed world to public view and to participation by constituencies that today are locked out.

First, the Task Force calls for a full-scale public inquiry into the land grant college complex. Congress immediately should initiate a thorough investigation into the impact of the land grant effort, into the relationships between agribusiness and the land grant community, into the policy-making apparatus, into disclosure requirements and into all other aspects of the complex. Congress should take its investigation onto the campuses and into the rural areas, seeking testimony at the local level from all constituencies that ought to be served by the land grant complex. To assist this congressional inquiry, members of Congress should immediately initiate an audit of the land grant complex by the General Accounting Office.

In addition to a national investigation by Congress, state legislatures should undertake investigations of the agricultural complex in their land grant institutions.

Second, the Task Force calls on the House and Senate agricultural appropriations subcommittees:

(1) to re-open this year's hearings on the agricultural research budgets in order to conduct a serious and meaningful examination of those budgets, including a detailed look at the exact nature of the land grant research now underway and proposed for fy 1973;

(2) to invite witnesses from constituencies and organizations that now stand outside the land grant-agribusiness community; and,

(3) to write into the committee reports on this year's agricultural appropriation a requirement that the Secretary of Agriculture establish a Research Review Committee that would develop broad research goals for the next decade. The RRC would evaluate current research policy and procedure, and it would recommend allocations of money and man years for a new, national research policy for agriculture and rural America.

This was attempted in a joint USDA-NASULGC study in 1966, but both the general and specific

> recommendations reflected the narrow focus of the closed community chosen to participate in that study. Unlike the 1966 study, the Research Review Committee would be required to include not only USDA, the land grant community and agribusiness, but also representatives of rural and urban constituencies directly affected by research policy.

Third, the Task Force calls on the Secretary of Agriculture immediately to restructure the national advisory and policy-making apparatus so that there is broadened in-put for research planning. Both the National Agricultural Research Advisory Committee and the Agricultural Research Policy Advisory Committee of USDA should immediately be restructured to include a majority membership representing legitimate spokesmen for consumers, environmentalists, independent family farmers, farm workers, minorities, small town businessmen, rural public officials and other interests directly affected by the work of the land grant complex.

In addition, the Secretary of Agriculture, in cooperation with the land grant community, should conduct a public review of advisory structures at the campus level of the land grant complex. Out of that review should come a restructuring and a formalizing of those advisory committees, including procedural assurances that all constituencies with a legitimate interest in the work of the land grant complex will be represented.

Fourth, the Task Force calls on the Secretary of Agriculture, in cooperation with the land grant community, immediately to initiate public negotiations with "outside" constituencies to develop and promulgate procedures that will allow these interests, as well as agribusiness, to initiate research requests and otherwise make use of this public resource. All research requests should come through these channels and should be public information.

Fifth, the Task Force calls for an immediate end to racial discrimination within the land grant complex. Research and extension money should be allocated directly to the black land grant colleges on the same basis as it is allocated to the white colleges. Federal money should be withheld from any state land grant complex that does not place its black institution on an equal footing with the white college. Also, federal money should be withheld from the Extension Service until that agency complies with the civil rights legislation of this country.

Sixth, the Task Force calls for legislation or regulations that would:

> (1) prohibit land grant officials and other personnel from receiving remuneration in conflict of interest, including compensation for service on corporate boards of directors, retainers and other fees for agribusiness consultations and private research grants to test corporate products;
>
> (2) prevent corporations from earmarking contributions to the land grant complex for specific research that is proprietary in nature; and
>
> (3) ensure that land grant patenting practices do not allow private gain from public expenditures

without adequate, financial compensation to the public. Where exclusive licenses are necessary, an open bidding system should be employed.

Seventh, the Task Force calls for full public disclosure from the land grant complex. Specifically, legislation should be enacted to require an annual report from each land grant complex. The annual report should be filed at the end of each fiscal year; it should be filed with the Secretary of Agriculture and with the House and Senate agricultural appropriations subcommittees; and it should be public information, readily available. Information in annual reports should be detailed, complete and uniform. A national report, compiled from the state reports, should be prepared annually by the Secretary of Agriculture and distributed to the public.

Each annual report from the state land grant complexes should include the following:

(1) Deans' Narrative--an interpretation of the focus of teaching, research and extension during the past year and plans for the next year;

(2) Financial Report--detailed statement of receipts, expenditures and assets;

(3) Research Report--detailed listing of all research projects conducted and underway during the year, categorized under USDA's Research Problem Areas and including:

- brief description of project
- amount of money in each project, by source of money (specifically naming the federal agency, state agency, corporation, foundation, etc.)
- length of project, including amounts expended in previous years, by source of money
- man years devoted to the project;

(4) Patent Report--summary of all patents held or applied for, including:

- patents licensed (to whom and terms of the agreement)
- patent income received, by patent;

(5) Advisory Committees--listing of each committee, including its purpose, members and their affiliation; and,

(6) Research Foundation Report--detailed statement of the land grant complex's relationship to its foundation, including:

- staff, officials and resources shared
- money received from the foundation, including original source of the money, amount and purposes for which it is given
- services or products delivered to the foundation
- receipts, expenditures and assets of the foundation.

APPENDICES

APPENDIX A:

Legislation Creating the Land Grant College Complex

The land grant college complex, including the agricultural extension services and the agricultural experiment stations were created and are now governed by various laws codified at 7 U.S.C. sections 301-390. The establishment of the land grant colleges is covered by sections 301-331; cooperative extension work is governed by sections 341-349; and the agricultural experiment stations and research facilities are governed by sections 361-390.

The major legislation creating the land grant complex as it exists today is summarized below under the three functions of teaching, research and extension.

EDUCATION:

The Morrill Act--Act of July 2, 1862, which provided for the original grant of land to the various states for the endowment, support and maintenance of agriculture and mechanical arts, and established the formulas for appropriations. Public lands were granted to the states in a quantity equal to 30,000 acres for each senator and representative in Congress, determined under the census of 1860. There were strictures placed on the States' management of that land in order to ensure that the entire proceeds from the land grants would be applied, without any dimunition whatever to the purposes of the Act. In this regard, the state was to replace any of the capital of the fund should it be diminished or lost. The Act was amended in 1866 to allow for an extension of time for states to comply with the provisions of the Morrill Act by either establishing new colleges with the donation of public lands, or to grant such benefits to existing colleges, and to clarify that when new states were admitted to the Union they would be entitled to the benefits of the Morrill Act by expressing their acceptance within three years from their date of admission into the Union.

The Second Morrill Act--Act of August 30, 1890, with the stated purpose of providing further for the endowment of colleges of agriculture and the mechanical arts. The Act increased the appropriations to endow and support colleges of agriculture and mechanical arts, with the specific proviso:

> That no money shall be paid out under this Act to any State or Territory for the support and maintenance of a college where a distinction of race or color is made in the admission of students shall be held to be a compliance with the provisions of this Act if the funds received in such State or Territory be equitably divided as hereinafter set forth.

The black land grant colleges are governed by the same administrative procedures as the 1862 colleges.

The express creation of separate colleges for white and black students has never been amended by Congress.

The Nelson Amendment--Amendment of March 4, 1907, granted a further appropriation for the endowment and maintenance of land grant colleges, with the proviso that a portion of this money could be spent in providing courses for the special preparation of instructors for teaching the elements of agriculture and the mechanic arts.

The Purnell Act of 1925 authorized the more complete endowment of the agricultural experiment stations, and stated, "funds...shall be applied to... such economic and sociological investigations as have for their purpose the development and improvement of the rural home and rural life..."

The Bankhead-Jones Act of June 29, 1935 (subsequently amended June 1952 and July 14, 1960) provided additional funds for basic research into the laws and principles relating to agriculture, the further development of cooperative extension work and the more complete endowment and support of the land grant colleges. In writing up the Act in 1950, USDA issued a monograph, which stated:

> The Bankhead-Jones Farm Tenant Act may be said to have had its origin in a national tradition. That tradition is a belief in the economic and social values of owner operated family farms. To such farms in

> no small measure the great middle class in American society owes its origin. Upon such farms in no small measure the middle class must depend for continued influence in shaping the destinies of our democracy.
>
> Among the founding fathers Thomas Jefferson was an outstanding exponent of the virtues of family farms. He was expressing the prevailing views of his time when he said "the small land holders are the most precious part of a State."
>
> A resolution adopted by the American Farm Bureau Federation at its annual meeting in Chicago in December 1935 contained the following statement: "We recognize the tremendous importance of home ownership in agriculture..."
>
> The National Grange in 1943 stated, "The best interests of our Nation will be served if a high percent of our farms are owner operated."
>
> In a report dated October 1944 a Committee of the Association of Land-Grant Colleges and Universities said: "The family type farm should remain the basis on which American agriculture typically is organized."

RESEARCH:

The Hatch Act of 1887 authorized federal grant funds for direct payment to each state that would establish an agricultural experiment station in connection with the land grant college established under the provisions of the First Morrill Act. Section 2 of the Hatch Act states the purpose of the Federal-grant research program as follows:

> It is the policy of Congress to promote the efficient production, marketing, distribution and utilization of farm products as essential to the health and welfare of our people....

> It shall be the object and duty of the State agricultural experiment stations through the expenditure of the appropriations hereinafter authorized to conduct original and other researches, investigations and experiments bearing directly on and contributing to the establishment and maintenance of a permanent and effective agriculture industry of the United States, including researches basic to the problems of agriculture in its broadest aspects, and such investigations as have for their purpose the development and improvement of the rural home and rural life and the maximum contribution by agriculture to the welfare of the consumer.

With the passage of the Hatch Act and the Act raising the Department of Agriculture to Cabinet level, the organized system of agricultural research in the United States was put on a permanent and nationwide basis.

What developed was a movement for more funds to fulfill the goal of advanced research and experimentation in agriculture. In many states, so much of the Hatch Act funds were being used for administrative purposes, the preparation and distribution of publications, and the more superficial experiments that little was left for thorough research. There were 52 experiment stations in 1902 when the Adams Act was passed "to be applied only to paying the necessary expenses of conducting original researches or experiments bearing directly on the agricultural industry of the United States...."

The Adams Act funds were always administered separately by the USDA. Each station was required to keep a separate account of Adams Act funds and a financial report of each investigation and problem studied had to be made on a form provided by USDA. The work of experiment stations thus proceeded along the basis of explicitly well-defined projects to strengthen their scientific work, with the following policy stated by the Office of Experiment Stations in its report for 1906:

> In passing upon these projects the Office has undertaken to determine only their suitability and appropriateness under the terms of the act. It has left to the individual initiative of the station workers the planning of the investigations and the selection of the topics most important to their localities. The Office has insisted only that the projects as outlined should be such as to characterize them as scientific investigations embracing some original features....Research is worthy of its name only as it is directed to the answering of definite problems by scientific methods of procedure. This will involve a definite plan of operation and thorough consideration of what is known of the subject and its bearing, and should lead to a knowledge of the reasons for the results secured. Again, research presupposes a definite aim and a definite problem to be solved, a specific end to be attained rather than the mere accumulation of data....

Agricultural Marketing Act of 1946 provided for extensive research in conjunction with the experiment stations and cooperative extension services on a state matching fund basis, to provide for "an integrated administration of all laws so that marketing is improved, costs reduced, dietary and nutritional standards improved, and wider markets developed resulting in the full production of American farms being disposed of usefully, economically, profitably, and in an orderly manner."

The 1955 Amendments further restated the policy of Congress with respect to the experiment stations, as follows (7 U.S.C. 361c):

> It is further the policy of Congress to promote the efficient production, marketing, distribution, and utilization of products of the farm as essential to the health and welfare of our peoples and to promote a sound and prosperous agriculture and rural life as indispensable to the maintenance of maximum employment and national prosperity and security....

The McIntyre-Stennis Bill passed October 10, 1962 and provided for the funding of forestry research through the land grant colleges and experiment stations.

EXTENSION

The Smith-Lever Act of May 1914 established the agricultural extension services for "aid in diffusing among the people of the United States useful and practical home economics, and to encourage application of the same" in connection with the First Morrill Act colleges. As further defined in section 2 of the Act, "cooperative extension work shall consist of the giving of instruction and practical demonstrations in agricultural and home economics and subjects relating thereto to persons not attending or resident in said colleges in the several communities, and imparting information on said subjects through demonstrations, publications and otherwise . . . and this work shall be carried on in such manner as may be mutually agreed upon by the Secretary of Agriculture and the State agricultural college or colleges receiving the benefits of the Act."

Added to the Hatch Act with the 1955 Amendments was the following "Special Needs" section, which authorizes up to 10% of the total appropriation for Extension work to be allocated over and above the annual appropriation to the "Disadvantaged Agricultural Areas". This is codified at 7 U.S.C. sections 347a:

> DISADVANTAGED AGRICULTURAL AREAS-
> CONGRESSIONAL FINDINGS
>
> (a) The Congress finds that there exist special circumstances in certain agricultural areas which cause such areas to be at a disadvantage insofar as agricultural development is concerned, which circumstances include the following: (1) There is concentration of farm families on farms either too small or too unproductive or both; (2) such farm operators because of limited productivity are unable to make adjustments and investments required to establish profitable operations; (3) the productive capacity of the existing farm unit does not permit profitable employment of available labor; (4) because of limited resources, many of these farm families are not able to make full use of current extension programs designed for families operating economic units nor are extension facilities adequate to provide the assistance needed to produce desirable results.
>
> (C) In determining that the area has such special need, the Secretary shall find that it has a substantial number of disadvantaged farms or farm families for

> one or more of the reasons heretofore enumerated. The Secretary shall make provisions for the assistance to be extended to include one or more of the following: (1) Intensive on-the-farm educational assistance to the farm family in appraising and resolving its problems; (2) assistance and counseling to local groups in appraising resources for capability of improvements in agriculture or introduction of industry designed to supplement farm income; (3) cooperation with other agencies and groups in furnishing all possible information as to existing employment opportunities, particularly to farm families having under-employed workers; and (4) in cases where the farm family, after analysis of its opportunities and existing resources, finds it advisable to seek a new farming venture, the providing of information, advice, and counsel in connection with making such change.

No funds have ever been allocated under this section. State extension directors are the only ones authorized to submit projects under this section, and USDA has not revealed whether any plans have ever been submitted.

APPENDIX D:

COOPERATIVE STATE RESEARCH SERVICE

Purpose Statement

The Cooperative State Research Service was established by Secretary's Memorandum No. 1462 dated July 19, 1961 and Supplement 1, dated August 31, 1961 under Reorganization Plan No. 2 of 1953. The primary function of the Service is to administer acts of Congress that authorize Federal appropriations for agricultural research carried on by the State agricultural experiment stations of the 50 States and Puerto Rico, by approved schools of forestry and nonprofit institutions.

Acts under which payments to States may be made include:

1. Agricultural Experiment Stations Act of August 11, 1955 (Hatch Act of 1887, as amended - 7 U.S.C. 361a-361i)
2. Cooperative Forestry Research Act of October 10, 1962 (16 U.S.C. 582a-582a-7)
3. Act of September 6, 1958, (42 U.S.C. 1891-1893) and the Act of August 4, 1965, (7 U.S.C. 450b), authorizing grants for support of scientific research
4. Research Facilities Act of July 22, 1963, (7 U.S.C. 390-390k)

Administration of payments and grants involves the review and approval in advance of each individual research proposal submitted by a State agricultural experiment station or other institution to be financed in whole or in part from Federal-grant funds, the disbursement of the funds, and the continuous review and evaluation of research programs and expenditures thereunder. The Service also encourages and assists in the establishment and maintenance of cooperation within and between the States, and participates in the planning and coordination of research programs between the States and the U.S. Department of Agriculture.

The program coordination and planning is carried out by a Cooperative State Research Service staff located entirely in Washington, D.C.

Source: U.S. House of Representatives. Hearings. Committee on Appropriations "Agriculture-Environmental and Consumer Protection Appropriations for 1972." 92nd Congress, 1st Session. Part 2, p. 512.

APPENDIX E:

AGRICULTURAL RESEARCH SERVICE

Purpose Statement

The Agricultural Research Service was established by the Secretary of Agriculture on November 2, 1953, under the authority of the Reorganization Act of 1949 (5 U.S.C. 133z-15), Reorganization Plan No. 2 of 1953, and other authorities. It conducts farm, utilization, marketing, and nutrition and consumer use research, and plant and animal disease and pest control and eradication activities.

The program of the Agricultural Research Service is organized under two major areas of activity as follows:

1. Research is conducted under four major categories: (a) farm research (research on crops and livestock and their diseases and pests, soil and water conservation, and agricultural engineering); (b) utilization research and development; (c) nutrition and consumer use research; (d) marketing research.
2. Regulatory activities are conducted under two major categories: (a) plant disease and pest control; (b) animal disease and pest control.

The Service carries out emergency programs, when necessary, for the control and eradication of animal diseases, such as foot-and-mouth disease, and for the control of emergency outbreaks of insects and diseases.

The Service directs research mutually beneficial to the United States and the host country which can be advantageously conducted in foreign countries through agreements with the foreign research institutions and universities. This program is carried out under the authority of section 104(b) (1) and (3) of Public Law 480, the Agricultural Trade Development and Assistance Act of 1954, as amended.

The Service maintains central offices in the Washington Metropolitan Area, and operates the 10,311 acres Agricultural Research Center at Beltsville, Maryland. However, most of the Service's work is conducted at numerous field locations in the 50 States, Puerto Rico, the Virgin Islands, and in several foreign countries. Much of the work is conducted in cooperation, or under contracts and grants, with the State agricultural experiment stations, State Departments of Agriculture and with other agencies, both public and private.

SOURCE: U.S. House of Representatives. Hearings. Committee on Appropriations "Agriculture-Environmental and Consumer Protection Appropriations for 1972." 92nd Congress, 1st Session. Part 2, p. 147.

APPENDIX J:

EXTENSION SERVICE

Purpose Statement

Cooperative agricultural extension work was established by the Smith-Lever Act of May 8, 1914, as amended. The legislation authorizes the Department of Agriculture to give, through the Land-Grant Colleges, instruction and practical demonstrations in agriculture and home economics and related subjects and to encourage the application of such information by means of demonstrations, publications, and otherwise to persons not attending or resident in the colleges. Extension educational work is also authorized under the Agricultural Marketing Act of 1946.

The basic job of the Cooperative Extension Service is to help people identify and solve their farm, home, and community problems through use of research findings of the Department of Agriculture and the State Land-Grant Colleges, and programs administered by the Department of Agriculture.

State and county extension work is financed from Federal, State, County and local sources. These funds are used within the States for the employment of county agents, home economics agents, 4-H Club agents, State and area specialists and others who conduct the joint educational programs adapted to local problems and conditions.

The Extension Service, as a partner in the cooperative effort, has three major functions:

1. Serves as liaison between the Department of Agriculture and the States, provides program leadership and assistance to the States in the conduct of extension work.

2. Administers Federal laws authorizing Extension work and coordinates the work among the States.

3. Provides leadership in the coordination of the educational phases of all programs under the jurisdiction of the Department.

This work is carried out through State and County Extension offices in each State, Puerto Rico, and the District of Columbia. This program is coordinated by an Extension Service staff located in Washington, D. C. In addition, the Extension Service has marketing specialists located at Clemson, South Carolina; Raleigh, North Carolina and Dallas, Texas, to provide special emphasis on cotton marketing and utilization and a grain marketing specialist in Peoria, Illinois.

SOURCE: U.S. House of Representatives. Hearings. Committee on Appropriations "Agriculture--Environmental and Consumer Protection Appropriations for 1972." 92nd Congress, 1st Session. Part 2, p. 22.

PRESS

FOR RELEASE:
WEDNESDAY, OCTOBER 11, 1972
11:00 A.M.

CONTACT

Migrant Legal Action Program, Inc.
VALERIE KANTOR (202) 785-2475 or
Agribusiness Accountability Project
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EARL BUTZ and ELLIOTT RICHARDSON, together with other USDA and HEW officials, were charged in a lawsuit filed today with using three-quarters of a billion taxpayers dollars annually to cater to the special interests of corporate agribusiness in the administration of the "Land Grant Complex". That complex consists of 70 universities, the Agricultural Research and Experiment Stations and the Agricultural Extension Service in every state of the country.

The lawsuit was filed in Federal District Court in Washington on behalf of numerous individuals and organizations who represent the intended beneficiaries and interests designated to be served by the original laws creating this complex. Among the plaintiffs are: Jose Angel Gutierrez, the newly elected Chairman of LA RAZA UNIDA; the NATIONAL COALITION ON LAND REFORM; the NATIONAL CONSUMERS LEAGUE; the GEORGIA COUNCIL ON HUMAN RELATIONS; SOL DE AZTLAN: the NATIONAL SHARECROPPERS FUND, INC.; the MID-WEST COUNCIL OF LA RAZA; a Land Grant College professor, an Extension Agent, and a Land Grant College alumnae, as well as several farmers and farmworkers who have been neglected, displaced, or directly harmed by the policies set by the Secretaries of Agriculture and HEW.

The lawsuit charges widespread non-compliance with Civil Rights laws, unlawful discrimination in employment and distribution of benefits and grants, the use of Federal funds to benefit private interests and corporations with no due process or equal protection for farmers, farmworkers, consumers and the rural population and environment.

The suit is an outgrowth of the Task Force Report on the Land Grant College Complex "HARD TOMATOES, HARD TIMES" that was released by the Agribusiness Accountability Project in May 1972. That report documented the failure of the Land Grant Complex to adequately serve all the interests of rural America because it had focused its resources on developing technology, mechanization and pesticide research which is of primary benefit to corporate agribusiness.

In order to realign the research priorities of the complex to focus on the legitimate needs of rural America, the suit seeks a permanent injunction barring further disbursement of funds until such time as the Secretaries can demonstrate compliance with the laws and the intent of Congress. It specifically demands that the policy making and advisory apparatus include spokesmen for the independent family farmers, farmworkers, consumers, environmentalists, minorities and other rural interests directly affected by the work of the Land Grant Complex.

Plaintiffs demand that an equal amount of funds appropriated be spent on human, job training and job placement as are spent on developing mechanization or pesticides whose express purpose is to replace labor. The suit requests an accounting by all segments of the Land Grant Complex and disclosure of all funds coming from private sources.

In the future, the Defendants are requested to file impact statements available to the public, setting forth the estimated impact of each major project on rural America, the environment, the economy, and the people most directly affected.

The litigation illustrates yet another example of Congress abdicating its powers to the executive branch . EARL BUTZ and ELLIOTT RICHARDSON, in turn, have allowed policy to be dictated by the vested interests of corporate agribusiness.

* * * * * * * * * *

Lawyers responsible for the lawsuit will be available to answer questions from the press at 11:00 A.M., Wednesday, October 11, 1972 at 1000 Wisconsin Avenue, N. W. Washington, D. C. Copies of the complaint will also be available at that time.

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

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NATIONAL CONSUMERS LEAGUE
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(202) 347-3853

Plaintiffs,

-v-

EARL L. BUTZ, Individually and in his capacity as Secretary of Agriculture
14th St. and Independence Ave., S.W.
Washington, D.C. 20250

NED D. BAYLEY, Individually and in his capacity as Director of Science and Education
U.S. Department of Agriculture
14th St. and Independence Ave., S.W.
Washington, D.C. 20250

T.W. EDMINSTER, Individually and in)
his capacity as Administrator of the)
Cooperative State Research Service)
U.S. Department of Agriculture)
14th St. and Independence Ave., S.W.)
Washington, D.C. 20250)

E.L. KIRBY, Individually and in)
his capacity as Administrator of)
the Extension Service)
U.S. Department of Agriculture)
14th St. and Independence Ave., S.W.)
Washington, D. C. 20250)

ELLIOT L. RICHARDSON, Individually)
and in his capacity as Secretary)
of Health, Education and Welfare)
330 Independence Ave., S.W.)
Washington, D.C. 20201)

SIDNEY P. MARLAND, Jr., Individually)
and in his capacity as U.S. Commissioner of Education)
Department of Health, Education and)
Welfare)
330 Independence Ave., S.W.)
Washington, D.C. 20201)

ARCHIE AYRES, Jr., Individually and)
in his capacity as Program Officer)
for Land Grant Colleges)
Department of Health, Education and)
Welfare)
330 Independence Ave., S.W.)
Washington, D.C. 20201)

Defendants.)

COMPLAINT

(For Declaratory, Injunctive and
Other Equitable Relief)

This is an action demanding that Defendants comply with the Constitution and Federal law in the administration, supervision and enforcement of the land grant college system, the agricultural experiment stations and other research facilities, and the agricultural extension service. It is brought by the intended beneficiaries and their representatives and interests designated to be served by the laws creating the land grant complex, now codified at 7 U.S.C. §§ 301-390.

Plaintiffs allege widespread non-compliance with the Federal laws, unlawful discrimination in employment and distribution of grants and benefits, the use of Federal funds to benefit private interests and corporations with no due process or equal protection for the farmers, farmworkers, consumers, and rural population and environment that are displaced, neglected, abused and damaged by the direct acts and/or omissions of the Defendants.

Plaintiffs seek a declaratory judgment on the constitutional validity of the delegation of authority to the Secretaries of Agriculture and Health, Education and Welfare; an injunction barring the further disbursement of funds until such time as the Secretaries can demonstrate compliance with the applicable laws, and have set forth adequate guidelines and standards to provide for the equitable, distribution of funds and benefits to all the intended beneficiaries under the legislation creating these Federal grants programs.

1.

This Court has jurisdiction of this case by virtue of 28 U.S.C. § 1331, 28 U.S.C. § 1337, 28 U.S.C. § 1343(3) and (4), 28 U.S.C. § 1346, and 28 U.S.C. § 1361. The amount in controversy exceeds $10,000. Relief is also requested under the provisions of 28 U.S.C. § 2201.

2.

Plaintiff individuals and organizations are as follows:

a. Plaintiff Jose Angel Gutierrez, is the President of the School Board in Crystal City, Texas, which has a Chicano population of 90%, most of whqm are involved in agriculture. Because of the limited access the Chicano of Crystal City has to skills and capitol, there are no occupational alternatives to agriculture for them. Many are forced to migrate from May to October to earn at least some annual income. The plight of the Chicano in Crystal City, Texas has not been alleviated by the Extension Service or any other component of the land grant complex.

b. Plaintiff The National Coalition for Land Reform is a non-profit corporation with membership consisting of citizens and organizations from all sections of the country, who recognize the need for a more equitable distribution of land in rural America. Prevalent among the citizen members of the National Coalition for Land Reform are farmers and farmworkers. The Coalition seeks to stem the effects of large landholding patterns on the vitality of rural life and advocates legislation which it feels will benefit small farmers or farmworkers who wish to become farmers. Among its goals are improved market conditions for the family farmers and the development and use of agricultural cooperatives.

c. Plaintiff Fred Kilian operates a farm in Wamego, Kansas. While it is a productive unit, the capital needs are enormous, and it is hard not to be continually in debt. This makes it impossible to pass this way of life on to the next generation. Mr. Kilian has four sons who can all do better in the cities, working for fair wages, and cannot afford to stay on the land. Mr. Kilian feels the land grant system has contributed toward this problem because it has not directed its thrust toward the small unit.

d. Plaintiff Arturo Gonzalez was a migrant farmworker for ten years. When he could find no work, he was forced to go on welfare. He is presently working as an aide at a community mental health clinic in Lansing, Michigan.

e. Plaintiff Max Altman, whose 78 acre poultry farm was foreclosed in New York State in 1963 and who now resides at 70 East 89th Street, Brooklyn, New York was forced out of poultry farming by verticle integration, which came about partly because of the research and promotional activities of the Land Grant complex.

f. Plaintiff Hugh Watson is an unemployed farmworker, looking for work in Immokalee, Florida.

g. Plaintiff Gerald Bodily farms 2 1/2 acres in Strathmore, California. He earns his living as a chemistry teacher at the local high school. Because of the concentrated use of pesticides in the central agricultural valley of California, Mr. Bodily finds that it is impossible to keep the produce he grows for his family, customers and animals free from pesticide pollution, both airborne from farmers throughout the valley and from past use of the land. He states that the University of California is not doing enough research and promotion of alternatives to chemical pesticides.

h. Plaintiff Efrain Portillo Marinez of East Lansing, Michigan has now retired after 37 years of farm work, which had to support a family of 11 children. During his years in the field, he observed many changes in the operation of the farms he worked, although he had to adopt on his own to these changes. His real income never went up. He was offered no advice or any practical information on agricultural employment or earning a living, and he never heard of any farmworker being helped in this way.

i. Plaintiff Francis Wiley has a farm on Rural Route 3, Lawrence, Kansas. He is being forced out of agriculture because it is economically devastating. He only has 160 acres left of what used to be a 1200 acre farm. He feels that the agriculture and relief appropriations never reach people like him because of the tight political controls exercised at the national and local levels.

j. Plaintiff Jerry D. Stockdale is an assistant professor in the Department of Rural Sociology of New York State College of Agriculture at Cornell University. He states that systematic biases exist, and have long existed, both in the recruitment of faculty and members in colleges of agriculture and in the kinds of activities faculty members are encouraged to pursue. This has had a negative effect on the teaching, research, and public service activities of land grant colleges. It has resulted in relative unresponsiveness to the needs of large numbers of rural residents, especially migrant workers and other poor rural persons. In the case of his profession, rural sociology, the bias has had a negative effect on the development of that discipline and of the professional output of its members. In recent years the Land Grant College Complex has failed to seriously concern itself with the plight of millions of rural Americans. In some cases, the USDA-Land Grant College Complex has restricted entry and opportunities to persons who are concerned with the problems of poverty in rural America.

k. Plaintiff Susan Erickson resides at 619 F Street, Davis, California and is an alumna of the University of Wyoming, a land-grant college located in Laramie, Wyoming. Her father has owned and operated a dairy farm in central Washington State for 25 years. Her education at the land grant college did not prepare her to return to farming.

l. Plaintiff Sol de Aztlan is a community organization incorporated in 1970 in the State of Michigan to provide information of vital interest and concern to members of the Michigan minority communities and to increase awareness of Mexican history and culture. Since that time they negotiated with the Cooperative Extension Service and Agricultural Experiment Stations to rearrange its priorities and to begin to hire staff, and have been refused. They have submitted five proposals to the University to serve the Spanish-speaking community and have been refused.

m. Plaintiff Judi Schubmehl lives in McDonough, Chenango County, New York State and has been the Cooperative Extension Human Resource Development Specialist for the Chenango Development Project since August, 1970. This project is Cornell University's pilot rural poverty effort, funded by New York State. She has prime responsibility for working with poor people and the agencies designed to serve them in Chenango County and has found the New

York College of Agriculture and the Cooperative Extension to be generally irrelevant and unresponsive to the rural poor.

n. Plaintiff National Sharecroppers Fund, Inc. is a non-profit corporation with its principal office at 1346 Connecticut Avenue, N.W. Washington, D.C. It was organized in 1937 to promote farmworker and small farmers and to provide assistance for their needs and problems.

o. Plaintiff Georgia Council on Human Relations, 506 Bona Allen Building, 133 Luckie Street, N.W. Atlanta, Georgia is a not-for-profit corporation supported by memberships, donations and grants. The Georgia Council is dedicated to the betterment of human relationships in Georgia across ethnic, religious, and economic lines.

p. Plaintiff Mid-West Council of La Raza with its central office at the University of Notre Dame, is a community organization that serves a population of more than one and one half million Spanish-speaking people in the following states: Ohio, Indiana, Michigan, Illinois, Wisconsin, Minnesota, Kansas, Nebraska, Missouri, and Iowa in developing a coordinated approach for La Raza in terms of providing technical assistance program development and leadership training efforts to foster self pride and self determination. They are the grantee for three transition centers which aid migrants in the process of settling out of the migrant stream.

q. Plaintiff National Consumers League is a nationwide, individual membership, non-profit organization founded in 1899, dedicated to promoting social legislation, fair labor standards and consumer issues. Its headquarters are located at 1029 Vermont Avenue, N.W. Washington, D.C.

3.

Defendant Earl L. Butz is the Secretary of Agriculture and is primarily responsible for the administration of 7 U.S.C. §§

301-390. Defendant T.W. Edminister is the Administrator of the Agricultural Research Service of the U.S. Department of Agriculture. Defendant Ned D. Bayley is the Director of Science and Education, U.S. Department of Agriculture, and is Chairman of the National Agricultural Research Policy Advisory Committee of USDA. All of these ¶ 3 Defendants are given primary responsibility and authority for the administration of the land grant complex, including research, experiment work and cooperative extension work within the U.S. Department of Agriculture, or have been delegated that function by the Secretary.

4.

Defendant Elliot L. Richardson is the Secretary of Health, Education and Welfare. Defendant Sidney P. Marland, Jr., is the U.S. Commissioner of Education. Defendant Archie Ayers, Jr., is the Program Officer for Land Grant Colleges of the Department of Health, Education and Welfare. All of these ¶ 4 Defendants are charged with the primary responsibility and authority for the administration of Federal funds to the land grant colleges within the jurisdiction of the Office of Education.

STATUTORY BACKGROUND

5.

The land grant college complex consists of three interrelated parts: education, research and extension.

EDUCATION: The Morrill Act of July 2, 1862 provided for the original grant of land to the various states for the endowment, support and maintenance of agriculture and mechanical arts, and established the formulas for appropriation. The Federal support contemplated in the initial Morrill Act was the income from public land [30,000 acres or its equivalent in scrip for each representative and senator] made available to each state. The state was expected to contribute to the maintenance of its land grant institution as well as to provide its buildings. Thus, a system of colleges and universities, known as the land grant colleges, designated and managed by each state, but receiving appropriations from and subject to laws enacted by the United States Congress, were established in every state. There are now 69 land grant colleges enrolling 1.5 million students.

The second Morrill Act of August 30, 1890 [26 Stat. 419] provided for the further endowment of colleges of agriculture and mechanical arts as designated by the state in conformity with the first Morrill Act, with the specific provision:

> "That no money shall be paid out under this Act to any State or Territory for the support and maintenance of a college where a distinction of race or color is made in the admission of students shall be held to being compliance with the provisions of this Act if the funds received in such State or Territory be equitably divided as hereinafter set forth."

Seventeen southern and border states took advantage of the Act of 1890, creating separate colleges for white and black students. This provision has never been amended by Congress. Funds for education and instruction are administered by the Office of Education, Department of Health, Education and Welfare. The U.S. Department of Agriculture administers the funds for experiment and research and extension services.

EXPERIMENT: Funds were authorized by the Hatch Act of 1887 [24 Stat. 440] for direct payment to each state that would establish an agricultural experiment station in connection with the land grant college established under the provisions of the Morrill Act of July 2, 1862, and the acts supplementary thereto, for the purpose of engaging in the systematic scientific study of problems relating to the agriculture of the state. Authorizations were increased in the following subsequent acts: The Adams Act of 1906; the Purnell Act of 1925; the Bankhead Jones Act of 1935; and Title I, § 9 of the Amendment of 1946 to the Bankhead Jones Act. In 1955, the Hatch Act was amended to bring about consolidation of the federal laws relating to the appropriation of federal funds for the support of agricultural experiment stations in the then 48 states, Alaska, Hawaii and Puerto Rico. With the amendment of the original Hatch Act, the other aforementioned acts with amendatory and supplementary acts were repealed. This is now codified at 7 U.S.C. § 631-390.

ADMINISTRATION: The Secretary of Agriculture is charged with the proper administration of the Hatch Act and is authorized and directed to prescribe such rules and regulations as may be necessary to carry out its provisions. [Hatch Act § 7; 7 U.S.C. § 361g] This section further states:

> "It shall be the duty of the Secretary to furnish such advice and assistance as will best promote the purposes of said sections, including participation in coordination of research initiated under said sections by the State agricultural experiment stations, from time to time to indicate such lines of inquiry as to him seem most important, and

> to encourage and assist in the establishment and maintenance of cooperation by and between the several State agricultural experiment stations, and between the stations and the United States Department of Agriculture."

The purpose of the Hatch research program is stated in section two of the Act:

> It should be the object and duty of the State agricultural experiment stations through the expenditure of the appropriations hereinafter authorized to conduct original and other researches, investigations and experiments bearing directly on and contributing to the establishment and maintenance of a permanent and effective agriculture industry of the United States, including researches basic to the problems of agriculture in its broadest aspects, and such investigations as have for their purpose the development and improvement of the rural home and rural life and the maximum contribution by agriculture to the welfare of the consumer.

The 1955 amendments further restated the policy of Congress with respect to the experiment stations, as follows (7 U.S.C. § 361c):

> "It is further the policy of Congress to promote the efficient production, marketing, distribution, and utilization of products of the farm as essential to the health and welfare of our peoples and to promote a sound and prosperous agriculture and rural life as indespensible to the maintenance of maximum employment and national prosperity and security."

The McIntire-Stennis bill of October 10, 1962 [76 Stat. 807, 16 U.S.C. § 58] provided for the funding of forestry research through the land grant colleges and experiment stations.

An agricultural experiment station is entitled to receive Hatch funds when it is a part of a land grant college established under the provisions of the Morrill Act of 1862. When there is more than one agricultural experiment station in a state, the state legislature is responsible for designating the station or stations to receive Hatch funds and the division thereof between them.

The Secretary of Agriculture is also empowered to deduct unexpended funds of any state agricultural experiment station from the next succeeding annual allotment to the state concerned, and to withhold from any state any portion of the appropriations available for allotment, and ascertain each states entitlement to receive its share of the annual appropriations for agricultural experiment stations, and the amount which each is entitled to receive.

EXTENSION: The Federal Extension Service, as the educational arm of the United States Department of Agriculture, has been operating since 1862, when Congress created the Department of Agriculture, its stated purpose being to gather and diffuse information and to establish land grant colleges to teach agriculture and the mechanical arts. [Act of May 15, 1862, ch. 72, 12 Stat. 387 (now 5 U.S.C. § 511 (1964) and the first Morrill Act, now 7 U.S.C. § 301 (1964)]. Extension work formally became a function of the land grant colleges in cooperation with the USDA with passage of the 1914 Smith-Lever Act. [ch. 79, 38 Stat. 372 (1914), as amended 7 U.S.C. § 341 (1964)] Cooperative agricultural extension work is to be "carried on in such manner as may be mutlally agreed upon by the Secretary of Agriculture and the State Agricultural College or colleges... receiving the benefits of the Title" [7 U.S.C. §342]. The formula for distribution of appropriations is not set forth in 7 U.S.C. § 342. Before any funds under this Act can be disbursed, plans for the work to be carried on by the cooperative agricultural extension service of each state must be approved by the Secretary of Agriculture. In addition, the Secretary of Agriculture is to receive an annual report including a detailed statement of the amount received by the state during the previous fiscal year and its disbursement, on forms to be prescribed by the Secretary of Agriculture. The Secretary of Agriculture is further empowered to withhold funds to a state. 7 U.S.C. § 346.

With the 1955 amendments, Congress added a new section entitled "Disadvantaged Agricultural Areas - Congressional Findings." This is now codified at 7 U.S.C. § 347a:

> "§ 347a. DISADVANTAGED AGRICULTURAL AREAS - CONGRESSIONAL FINDINGS
>
> (a) The Congress finds that there exist special circumstances in certain agricultural areas which cause such areas to be at a disadvantage insofar as agricultural development is concerned, which circumstances include the following: (1) There is concentration of farm families on farms either too small to too unproductive or both; (2) such farm operators because of limited productivity are unable to make adjustments and investments required to establish profitable operations; (3) the productive capacity of the existing farm unit does not permit profitable employment of available labor; (4) because of limited resources, many of these farm families are not able to make full use of current extension programs designed for families operating economic units nor are extension facilities adequate to provide the assistance needed to produce desirable results...
>
> (c) In determining that the area has such special need, the Secretary shall find that it has a substantial number of disadvantaged farms or farm families for one or more of the reasons heretofore enumerated. The Secretary shall make provisions for the assistance to be extended to include one or more of the following: (1) Intesive on-the-farm educational assistance to the farm family in appraising and resolving its problems; (2) assistance and counseling to local groups in appraising resources for capability of improvement in agriculture of introduction of industry designed to supplement farm income; (3) cooperation with other agencies and groups in furnishing all possible information as to existing employment opportunities, particularly to farm families having underemployed workers; and (4) in cases where the farm family, after analysis of its opportunities and existing resources, finds it advisable to seek a new farming venture, the providing of information, advice, and counsel in connection with making such change. [Underline supplied]

6.

Further regulations and guidelines governing the administration of these Federal grant programs are not codified or published for public circulation or comment, except for those regulations dealing with Equal Employment Opportunity and compliance with the Civil Rights Act of 1964. Congress has established the land grant complex and continues to channel appropriations through its various components at ever increasing levels, but has delegated all power and control over these funds to the Secretaries named in the Acts. Most other Federal grants programs have explicit mandates and directives, prescribed by laws and regulations to ensure that funds are expended only for authorized projects by authorized officials, delegates and grantees for authorized purposes proscribed by law. Congress has unconstitutionally delegated its legislative function to the Secretary of HEW and the Secretary of Agriculture and those Secretaries have, in turn, relinquished their functions and duties to state officials, without the legal authority or power to delegate such functions and duties. As Plaintiffs will demonstrate, much of the decision making process has, in fact, been adbicated to private interest groups.

7.

Therefore, Plaintiffs request this Court to issue a judgment declaring that the Morrill Acts [12 Stat. 503, 26 Stat. 417] the Hatch Act [24 Stat. 440] and the Smith - Lever Act [38 Stat. 372] unconstitutionally delegate authority to the Secretary of Health, Education and Welfare and the Secretary of Agriculture.

FACTS

8.

The purpose of the research and experiment work administered by USDA including that conducted by USDA through the Agricultural Research Service and the Cooperative State Research Service was to be:

> To promote the efficient production, marketing, distribution, and utilization of products of the

> farm as essential to the health and welfare of our peoples and to promote a sound and prosperous agriculture and rural life as indispensable to the maintenance of maximum employment and national prosperity and security." 7 U.S.C. § 361b.

The intended beneficiaries of the research, investigation and experiment work thereby authorized are: consumers, owner-operated family farms, the rural home and rural life. Defendants have a duty to serve or benefit the intended beneficiaries of these Acts.

9.

The research arm of the Land Grant College is the corresponding State Agricultural Experiment Stations. They receive annually almost one quarter of a billion dollars from all sources, which pays for approximately 19,965 projects throughout the country, and a total of 5,955.9 scientific man years. (Smy'S). This complex has concentrated the bulk of its resources on developing technology for agriculture through mechanization and research on chemicals and pesticides. The bulk of this research is committed to the technological and managerial needs of the largest scale producers of agribusiness corporations, and there is no equal committment or adequate proration of resources or time to the needs of the other intended beneficiaries, and those displaced by the priorities and beneficiaries selected by the Secretary of Agriculture or his delegate.

10.

Because of its size and expansiveness, the priorities and projects of the land grant complex determine the future of the agriculture industry in this country, as well as the present status and future of rural America. Attached as Appendix A and B are figures for the total state - by - state allotments of funds to the State Experiment Stations and to the State Extension Service. In addition to the Federal appropriations, each State and many local governments make appropriations to this complex. Private and public corporations also make grants, contributions and contracts with the complex.

11.

Under the present system of operation, not only do these private corporations reap enormous benefits from an often small initial investment (since the buildings, equipment, manpower and overhead are there at taxpayers' expense) but the subject matter or research objective chosen by the private interest corporation often determines the objectives and annual program of an entire STATE EXPERIMENT STATION. Policy and programs are threfore not determined by the Congress or by the Cabinet Officer given that responsibility, or even by state officials or the public.

12.

Illustrative of this process is pesticide research conducted at the Ithaca and Geneva, New York Experiment Stations in 1969-70. These two stations received 97 grants from 67 different corporations totalling $111,350, or $1150 average per grant. The gross returns to those corporations for the 97 grants have been estimated to be $6,501,200, but this could range from a maximum of $48.5 million to a minimum of $3.25 million. This windfall benefit is quite typical of that realized by private corporations who contract for certain research projects with the land grant research institutions.

13.

The changes made in agriculture as a result of the research and extension work of the land grant complex have wrought far-reaching consequences on the rural population and environment:

> Since the enactment of the laws creating the land grant college complex, when over 80% of the U.S. was rural in nature, farm population has declined to 4.8% of the total U.S. Population.
>
> The proportion of farm people over 55 years of age is rising while the proportion of those under 14 years of age has declined more than half in the last decade.
>
> Rural emigration has proceeded at an ever increasing rate.
>
> Half of the farm families in this country have annual incomes below $3,000
>
> 14 million rural Americans exist below a poverty income, and millions more are on the edge of poverty.
>
> Sixty percent of the substandard housing in America is located in rural areas. 2.5 million substandard houses are occupied by rural families.

14.

Despite this, the land grant college complex, which is the public's primary investment of intellectual and scientific resources in rural America, has failed to respond.

The public interest and welfare of America are not being served by the land grant complex which has fostered, and done little to address or remedy the consequences of its acts in rural America.

The land grant complex is not serving the intended beneficiaries of the laws that created it.

INTENDED BENEFICIARIES NOT BEING SERVED

15.

Farmworkers are not being served or benefited by the land grant complex when machines are developed at land grant colleges and experiment stations for the express purpose of replacing hand labor, and no projects are put forth to study the consequences on the workers thereby displaced. There were 4.3 million hired farmworkers in 1950. In 1970 that number was 2.5 million. Hired farmworkers in 1970 averaged an income of $1,083 if they did farm work only, while those who also did some non-farm work averaged an income of $2,461.

16.

The land grant complex views labor "as a physical rather than a sociological resource." The task force on Farm Labor and Mechanization of USDA - NASULGC determined that the goals of mechanization research would be to:

> (1) reduce farm labor requirements and improve efficiency in the production of crops in livestock through mechanization; and (2) through systems analysis, combine that set of production and marketing practices with land, labor, capital, and management inputs that will optimize income from the production of crops and livestock.

The task force recommended a 75% increase over ten years in scienfic man years of research conducted on mechanization of fruit, vegetable and field crop production. It recommended an increase of 84% in research man years allotted to systems analysis related to mechanization.

17.

The tomato harvester is one example of the land grant college complex's contribution to the development of machines for industry, without compensatory benefit or attention to the farmworkers who lose their jobs as a result. The two major parties involved in the development of the tomato harvester were the University of California at Davis, and the Blackwelder Manufacturing Company of Rio Vista, California. The University of Michigan, the University of Florida, the University of Maryland, and other private firms also engaged in research and development. It is estimated that this machine cost approximately $3,252,000 to develop until 1967, with the University of California paying $1,288,000, or a little under half the total cost, and the private firms paying $1,964,000. The tomato harvester replaces roughly 91 man hours per acre of tomatoes. At an average wage rate of $1.65 per hour, as computed from 1965 to 1973, the average wage loss to the worker was $42,298.523 per year in California alone. The amount saved by the grower was estimated at $7.51 per ton of tomatoes.

18.

A more recent example of land grant mechanization research which helps only one segment of the intended beneficiaries and harms the others is the type 32 tobacco harvesters developed at the University of Maryland. Because it is designed for use on the larger tobacco farms, and because of its expense, the harvester and curing system is estimated to be useful for only about 30 percent of the tobacco farmers in Maryland.

That machine is going to replace a substantial number of tobacco workers, and it is going to work to the competitive disadvantage of 70 percent of Maryland's tobacco farmers, but there is no research underway at the University of Maryland even to evaluate this impact of the harvester.

19.

In 1971 several of the large vertical integrators in poultry in Maryland divested their holdings and failed to renew purchasing contracts with many local farmers in Maryland and Delaware. As some of the processing plants also closed, many people were forced to go on welfare. Despite this, of the 29 projects devoted to various phases of the pultry business, there was not one project at the State Experiment Station committed to helping poultry farmers meet this crisis.

20.

The small farmers of America are not being served by the land grant complex when more than half of the farms in the country have sales of less than $5,000 a year, and this majority of farmers accounts for only 7.8% of all farm sales.

The family farmer of America is not being served or benefited by the land grant college complex when more than 3 million farms have folded since 1940, and 47,000 more were terminated in 1969-70.

21.

The black farmers are not being served or benefited by the land grant college complex when their numbers decreased from 272,541 in 1959 to 98,000 in 1970.

22.

The land grant college complex is not benefiting or serving consumers when food and products of dubious and even carcinogenic quality are being developed and promoted by that complex.

23.

DES, a drug additive used to hasten the maturation process in livestock is a product of the land grant college research at Iowa State University. The specific research program that developes Stilbestrol lasted about two years, but projects on growth regulators had been going on for years before that. The research at ISU was funded by state tax dollars.

A patent on DES was obtained in 1956 by the Iowa State Research Foundation. ISRF awarded an exclusive license to Eli Lilly drug company to manufacture and market DES, which it does under the registered trademark "Stilbosol." There was no competitive bidding for the license --the Foundation chose Lilly because it thought that company "was big enough to do the job and was ethical." Under the terms of the licensing agreement, ISU receives a 5 percent royalty on net sales of DES (85 percent of that royalty on net sales goes to the Foundation, while the other 15% goes to the inventor). Since 1956, DES has produced a royalty of $2.9 million for ISU, which means that the taxpayer has helped Eli Lilly and Company to sales of $58 million.

Referring to DES as their "star performer," ISU promoted the drug throughout the country -- now it is fed to about three - fourths of the 40 million cattle slaughtered annually. ISU reports that a "thimbleful of stilbestrol in a ton of feed makes cattle gain 15 percent faster at a $10 saving in feed per pound of grain."

Harrison Wellford of the Center for the Study of Responsive Law, states that DES "adds $90 million annually to the profits of cattle growers."

Diethylstilbestrol is very effective and profitable for agribusiness, but it is extremely dangerous to consumers. There is strong clinical evidence that the drug is carcinogenic in man. Twenty-one countries have banned the use of DES as a threat to public health, and both Sweden and West Germany have banned the import of American beef because of the possibility of DES residues. The Consumer and Marketing Service of USDA, charged with regulating the use of such additives, condemns any meat in which DES residues are detected.

The Food and Drug Administration has now issued a timed phase-out of DES. But the consumer cannot be assured that such action was taken in time, or that similar action would be forthcoming when the results of other products developed under land grant research become known. The consequences of such research are not being taken into consideration by the experiment branch of the land grant complex.

Consumers are not being any better served by other projects underway at various land grant colleges and experiment stations: Chickens have been fed the plant compound Xanthophyll to give their skin "a pleasing yellow tinge," and several projects have been undertaken to develop spray-on coatings to enhance the appearance of apples, peaches, citrus and tomatoes. Cosmetic research that is underway at land grant colleges includes the following projects:

> Iowa State University is conducting packaging studies which indicate that color stays bright

> longer when bacon is vacuum-packed or sealed in a package containing carbon dioxide in place of air, thus contributing to "more consumer appeal."
>
> Because of mechanical harvesting, greater numbers of green tomatoes are being picked, scientists at South Carolina's agricultural experiment station have shown that red flourescent light treatment can increase the red color in the fruit and can cause its texture and taste to be "similar to vine-ripened tomatoes."
>
> Cornell University is at work on a project concerned with the red color in apples.
>
> Kansas State University Extension Service, noting that apples sell on the basis of appearance rather than nutrition, urged growers to have a beautiful product. To make the produce more appealing, mirrors and lights in supermarkets produce cases where cited as effective selling techniques.

25.

These substances are not added for the benefit of the consumer; they are added either to eliminate labor or to speed-up nature's timetable. In either case, it is agribusiness that profits and the consumer who loses.

26.

Louisiana State University has experimented extensively with Ethrel, primarily in an effort to ripen peppers grown for the processing industry. The chemical has been applied as a spray "to ripen the fruit on the plant and as a post-harvest dip to ripen fruit in storage." In one pepper experiment, the scientists reported that "two days after spraying Ethrel at 6,000 ppm (air temperature 95° F.) the plants were completely defoliated." Another test was conducted on hot sauce made with Ethrel treated peppers -- "Ethrel resulted in a considerable increase in the carotenoid pigments of the ripe peppers, thus improving sauce color." The advantages to the industry are clear: Ethrel shows great promise as an aid to mechanical harvesting; green fruit that previously was discarded now can be "ripened" in storage; and Ethrel gives the hot pepper sauce a better color. Advantages to the consumer are less obvious, but land grant sicientists continue their research:

> At present Ethrel is not recommended for use since this material has not been cleared for a commercial label. However, Ethrel is being used experimentally with other crops such as tomatoes and pecans.

27.

In some cases, land grant researches are applying ethylene gas to ripen fruit. Ethylene is a plant hormone that functions as a ripening agent. By experimenting with this substance, fruit scientists at the University of California at Davis have brought small, green figs to full size and ripeness in seven days --58 days sooner than naturally ripened figs. It is not certain that figs or any fruits come through this intensely concerntrated "ripening" fully matured. There has been testimony that ethylene gassed tomatoes are of lower quality "with less vitamin A and C and inferior taste, color and firmness."

28.

The stated purpose of the heavy emphasis of the land grant complex on the use of mechanization and chemicals is to eliminate hand and field labor, thereby creating a more efficient agricultural operation. This purpose conflicts with the purposes set forth in the Acts that created the land grant complex.

--chemical growth regulators ("suckers") and weed control.

--improvements in or farm curing (electronic temperature control and bulk curing).

--handling methods (mechanization in the marketing sector --lifts, conveyors, etc.).

The USDA and every Experiment Station (Federally supported) in the tobacco states has now and has had for years a research program for the development of tobacco labor-saving technology and for other crops. There are comparable efforts in the land grant system in all other states for the important crops grown.

On the other hand, I do not know of one Experiment station which has a program of concerted effort conducive to facilitating the adjustment of people displaced from agricultural employment."

31.

In Florida, a state with a large and growing farmworker population with many obvious needs, the Florida Cooperative Extension Service spent only 16 out of 100,000 man days in 1970 in helping migrants - an allocation of 0.016 percent of Florida Extension Service time.

32.

If the extension service does not adequately serve lower-income people and minorities, it does preoccupy itself with the interests of agribusiness. A sampling of extension projects and demonstrations include:

--Texas extension agents assited "a large East Texas poultry company" develop "drastic changes in egg gathering, handling and cleaning procedures and equipment adjustments." The grateful firm estimated that its gross income has "increased $1,040 per week."

--A 1972 California Extension Service conference on weeds focused on such topics as "A Bankers' View of Weeds" and "What's New from Industry in Herbicides."

--Michigan extension workers organized and conducted "Invest Tours," designed to introduce investors to the recreation and tourism potential of the state's upper peninsula.

--Florida Extension conducted in-depth audits of both marketing and management firms in order to determine if the organizational structure and method of making decisions adequately carries out the overall objectives of the farm.

33.

The land grant complex, the research work and the extension services have directly benefited private corporations and interests. There has been no equal benefit to farm families, farm workers, the consumer or rural livelihood.

CAUSES OF ACTION

34.

Defendants have breached their duty pursuant to statute [7 U.S.C. § 301-390] to promote and improve the livelihood of the rural agricultural population. Defendants have breached their duty pursuant to these statutes to the intended beneficiaries of these Acts by neglect, omission, and misuse of funds appropriated under these Acts.

35.

Plaintiffs allege that the intended beneficiaries of these Acts have been displaced, dislocated, neglected, damaged, and abused as a result of the acts or omissions, policy making and administrative decisions of Defendants.

36.

The primary intended beneficiaries of these Acts are being served only incidentally, or are not served at all, or are actually harmed by Defendants' actions and inactions.

37.

Plaintiffs allege that Defendants have deprived the intended beneficiaries of these Acts of due process of the laws, contrary to the Fifth Amendment to the U.S. Constitution by failing to consult, account, or consider the problems and needs of these people, and failing to consider or account for the consequences of their acts.

38.

Plaintiffs allege that Defendants have disposed or caused to be given away public properties for the exclusive use of private citizens and corporations contrary to the patent clause, Article 4, section 3, clause 2 of the U. S. Constitution.

39.

Plaintiffs allege that Defendants have taken rights and properties vested in the public without just compensation and without due process of law, contrary to the Fifth Amendment of the U.S. Constitution.

40.

Plaintiffs request that the Secretary be directed to issue standards and guidelines to insure that the policy making and advisory apparatus include a majority membership representing legitimate spokesmen for consumers, environmentalists, independent family farmers, farmworkers, minorities, small town businessmen, rural public officials and other interests directly affected by the work of the land grant complex; and to insure that an equal amount of funds appropriated be spent on human, job training and job placement as are spent on developing labor-saving devices, mechanization or pesticides whose express or resultant purpose is to replace labor; and to insure that funds for research under the land grant complex be allocated on the basis of need, demands of the rural population and environment, and the public interests; and to require that Defendants or their delegate institutions file an impact statement, available to the public, setting forth the estimated impact of each major project undertaken by any component of the complex on rural America the environment, the economy, and the people most directly affected.

CIVIL RIGHTS VIOLATIONS

41.

The Morrill Act of 1890 authorized the use of Federal funds for the establishment and maintenance of separate colleges for white and"colored" students, giving the State legislatures the authority to direct which college (white or black) was to receive the Federal support funds for research and experiment work. The Hatch Act of 1887 provides that Federal research money "shall be divided between such institutions as the legislature shall direct." The Smith-Lever Act, authorizing funds for extension, also allows the state legislatrue to select the recipient college. All of the states that created "colleges of 1890" selected the white land-grant institution to receive the Federal research and extension funds. This is a denial of equal protection under the law in violation of the Fifth Amendment to the U. S. Constitution.

42.

Defendants have perpetuated and authorized the unlawful discrimination between the black and white land grant colleges.

FIGURE 1:

CSRS Distribution of funds to Colleges of 1890 and to predominantly white institutions in the same states

State	Institution	FY 1970	FY 1971
Alabama	Alabama A&M*	$ 18,396	$ 18,396
	Auburn University	1,766,049	1,962,179
Arkansas	Arkansas A&M & Normal*	16,980	16,980
	Univ. of Arkansas	1,486,634	1,644,956
Delaware	Delaware State*	12,413	12,413
	Univ. of Delaware	547,929	605,855
Florida	Florida A&M*	14,946	14,946
	Univ. of Florida	1,070,418	1,205,759
Georgia	Fort Valley State*	18,836	18,836
	Univ. of Georgia	1,918,117	2,138,902
Kentucky	Kentucky State*	19,080	19,080
	Univ. of Kentucky	1,858,134	2,078,901
Louisiana	Southern University*	16,251	16,251
	Louisiana State Univ. & Louisiana Tech	1,337,213	1,487,282
Maryland	Univ. of Md., Eastern Sh.*	14,23[illegible]	14,231
	Univ. of Md., Coll. Park	962,55[illegible]	1,082,689
Mississippi	Alcorn A&M*	18,751	18,751
	Mississippi State Univ.	1,830,043	2,048,632
Missouri	Lincoln Univ.*	18,239	18,239
	Univ. of Missouri	1,718,465	1,950,328
North Carolina	North Carolina A&T*	22,424	22,424
	North Carolina St. U.	2,564,966	2,882,386
Oklahoma	Langston Univ.*	15,956	15,956
	Oklahoma State Univ.	1,229,335	1,359,792
South Carolina	South Carolina State*	17,143	17,143
	Clemson University	1,501,523	1,677,593
Tennessee	Tennessee State Univ.*	19,256	19,256
	Univ. of Tennessee	1,908,060	2,127,860
Texas	Prairie View A&M*	21,991	21,991
	Texas A&M Univ. & Stephen F. Austin St.	2,445,273	2,728,487
Virginia	Virginia St. College*	18,107	18,107
	Virginia Polytech. Inst.	1,702,819	1,901,628
Total	Colleges of 1890[1]	$ 283,000	$ 283,000
	Predominantly white[2] Institutions	$25,847,536	$28,883,229

[1] Funds from Public Law 89-106.

[2] Hatch and McIntire-Stennis Act funds.

*Denotes colleges of 1890.

SOURCE: USDA. CSRS.

43.

In 1965, after the 1964 Civil Rights Act was passed, the Secretary of Agriculture issued regulations requiring that the state extension services be formally integrated. [7 C.F.R. § 15.1 et seq (1970)]. In February 1971 the Secretary of Agriculture issued memorandum 1662 requiring affirmative action plans for civil rights compliance. On February 28, 1972, a plan of implementation to remedy discrimination and meet the legal standards for civil rights compliance in State Cooperative Extension Services was sent out to all extension services. All State plans were to be submitted to the Secretary of Agriculture on or before July 1, 1972 and all provisions of the plans are to be implemented and complied with not later than Dec. 31, 1972.

44.

Current USDA documents and statistics indicate widespread non-compliance with civil rights laws. From the "Office of Equal Opportunity Annual Report", U.S. Department of Agriculture (Washington: July 1972) p. 25-28, the following was reported:

Total Number of County and State Extension Professional Personnel As Of November 1971:

15,433	White
814	Black
60	Spanish surnamed
12	Indian
15	Oriental

This breakdown did not tabulate on the basis of sex.

45.

Plaintiffs allege that Defendants have discriminated against Plaintiffs and others on the basis of race, color or national origin, in violation of Title VI of the Civil Rights Act of 1964, 42 U.S.C. § 2000(d). In evaluating USDA's civil rights compliance in the November 1971 document, "One Year After," the U.S. Civil Rights Commission said:

> "Improvements in the overall USDA Title VI program have been undermined by the grossly inadequate performance of the Extension Service, an agency whose program is fundamental to other agricultural programs. The Extension Service has consistently failed to discharge its Title VI responsibility to take forceful corrective action against non-complying recipients. Specifically, the Extension Service compliance program has been marked by unparalleled procrastination in dealing with numerous State Extension Services which have failed even to file acceptable Title VI assurances. Seven years after the enactment of the Civil Rights Act of 1964, these noncomplying recipients continue to receive financial assistance from the USDA."

46.

Suits have been brought in three states against the Extension Service for overt and flagrant discrimination in hiring and service. In Strain v. Philpott decided September 1, 1971 (M.D. Ala.), the court found that race discrimination was so pervasive and has so permeated the operations of the Alabama Extension Service that it felt compelled to issue a detailed decree which not only enjoined discrimination but also prescribed procedures for preventing future discrimination and for correcting the effect of past discrimination.

In the process of investigation of the Alabama and Mississippi Extension Services, the Justice Department turned up some poignant statistics: of 67 county extension chairmen in Alabama and of 83 chairmen in Mississippi, none were black.

CAUSES OF ACTION

47.

Defendants have unlawfully discriminated against blacks, spanish-speaking Americans, Indians, females and others in employment at the land grant colleges established by these Acts, at the state agricultural experiment stations funded by these Acts, and in the Agricultural Extension Services funded by these Acts. This is in violation of 7 C.F.R. 18, the equal employment regulations applicable to the U.S. Department of Agriculture, Title VI of the 1964 Civil Rights Act, and the Fifth Amendment to the U. S. Constitution.

48.

Defendants have unlawfully discriminated against blacks, Spanish-speaking Americans, Indians, females, and others in the distribution of benefits under these Acts, in violation of the equal protection clause of the Fifth Amendment to the U.S. Constitution and in violation of Title VI of the Civil Rights Act of 1964.

49.

Defendants have denied certain plaintiffs their express and implied rights as enumerated in these Acts contrary to the provisions of 42 U.S.C. § 1981.

50.

Defendants through their actions and inactions have fostered and maintained unequal services and benefits to ethnic and racial minority groups and to low income rural residents, in violation of the Fifth Amendment to the U.S. Constitution.

51.

Plaintiffs request a preliminary and permanent injunction barring further disbursement of funds by the Secretary of Health, Education and Welfare under these Acts until the Secretary can demonstrate compliance with the Civil Rights Act of 1964, equal employment opportunity regulations, and the equal protection clause of the U. S. Constitution.

52.

Plaintiffs further request a preliminary and permanent injunction barring further disbursement of funds by the Secretary of Agriculture under these Acts until the Secretary can demonstrate compliance with the Civil Rights Act of 1964, equal employment opportunity regulations, and the equal protection clause of the U. S. Constitution both as to employment practices and distribution of benefits.

NON-COMPLIANCE WITH REPORTING PROVISIONS

53.

Defendants have failed to comply with the reporting provisions of these Acts, some of which provisions are preconditions to release of grant funds or mandatory grounds for withholding funds. 7 U.S.C. §§305, 324, 325, 344, 345, 361c, and amendments thereto. See Appendix D.

54.

The information required under the above reporting provisions is not available in the form specified by law from the Secretary of Health, Education and Welfare or the Secretary of Agriculture.

55.

The information required under the above reporting provisions can only be obtained by the public upon special and specific inquiry in a computerized format after paying a fee.

56.

Plaintiffs request compliance by Defendants with the reporting provisions set forth in these Acts and require an accounting by all segments of the land grant complex and disclosure of all funds coming from private sources into the public land grant complex by amount and project designated, on a regular basis, and relating to the disposition of public funds appropriated under these Acts.

WHEREFORE, Plaintiffs request this Court to:

A. Issue a declaratory judgment declaring that the Morrill Acts [12 Stat. 503, 26 Stat. 417], the Hatch Act [24 Stat. 440] and the Smith-Lever Act [38 Stat. 372] unconstitutionally delegate authority to the Secretary of Health, Education and Welfare and to Secretary of Agriculture.

B. Issue a preliminary and permanent injunction barring furhter disbursement of funds under these Acts until such time as the Secretary has set forth adequate guidelines and standards to provide for the equitable distribution of funds and benefits to all the intended beneficiaries under the legislation.

(1) These standards and guidelines must insure that the policy making and advisory apparatus include a majority membership representing legitimate spokesmen for consumers, environmentalists, independent family farmers, farmworkers, minorities, small town businessmen, rural public officials and other interests directly affected by the work of the land grant complex.

(2) These standards and guidelines must insure that an equal amount of funds appropriated be spent on human, job training and job placement as are spent on developing labor-saving devices, mechanization or pesticides whose express or resultant purpose is to replace labor.

(3) These standards and guidelines must insure that funds for research under the land grant complex be allocated on the basis of need, demands of the rural population and environment, and the public interest.

(4) These standards and guidelines must provide that Defendants or their delegate institutions file an impact statement, available to the public, setting forth the estimated impact of each major project undertaken by any component of the complex on rural America the environment, the economy, and the people most directly affected.

C. Issue a preliminary and permanent injunction barring further disbursement of funds by the Secretary of Health, Education and Welfare under these Acts until the Secretary can demonstrate compliance with the Civil Rights Act of 1964, equal employment opportunity regulations, and the equal protection clause of the U. S. Constitution.

D. Issue a preliminary and permanent injunction barring furhter disbursement of funds by the Secretary of Agriculture under these Acts until the Secretary can demonstrate compliance with the Civil Rights Act of 1964, equal employment opportunity regulations, and the equal protection clause of the U. S. Constitution both as to employment practices and distribution of benefits.

E. Require an accounting by all segments of the land grant complex and disclosure of all funds coming from private sources into the public land grant complex by amount and project designated, on a regular basis, and relating to the disposition of public funds appropriated under these Acts.

F. Appoint a master to determine an appropriate formula for damages.

G. Require compliance by Defendants with the reporting provisions set forth in these Acts.

H. Such other relief as the Court may deem appropriate.

Respectfully submitted,

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APPENDIX A

DISTRIBUTION OF COOPERATIVE STATE RESEARCH SERVICE PAYMENTS AND NON-FEDERAL FUNDS FOR RESEARCH AT STATE AGRICULTURAL EXPERIMENT STATIONS AND OTHER STATE INSTITUTIONS

-Fiscal Year 1970-

State	CSRS Funds	State and Private Funds	Total
Alabama.	$ 1,741,388	$ 4,742,276	$ 6,485,664
Alaska	397,759	672,613	1,070,372
Arizona	784,555	3,840,284	4,624,839
Arkansas	1,365,763	3,879,136	5,244,899
California	1,924,934	25,295,872	27,220,806
Colorado	903,177	2,645,681	3,548,858
Connecticut.	663,458	2,802,190	3,465,648
Delaware	496,086	814,191	1,310,277
Florida.	963,421	12,466,308	13,429,729
Georgia.	1,734,896	7,250,611	8,985,507
Hawaii	512,916	3,197,279	3,710,195
Idaho.	735,022	2,738,036	3,473,058
Illinois	1,748,390	8,098,072	9,846,462
Indiana.	1,568,281	5,080,916	6,649,197
Iowa	1,645,416	6,073,205	7,718,621
Kansas	1,062,095	5,824,235	6,886,330
Kentucky	1,624,169	4,251,644	5,879,813
Louisiana.	1,232,704	6,310,886	7,543,590
Maine.	736,189	1,192,390	1,928,579
Maryland	913,121	2,406,390	3,319,511
Massachusetts. . . .	795,618	1,446,804	2,242,422
Michigan	1,563,649	5,653,298	7,216,947
Minnesota.	1,517,429	8,166,628	9,684,057
Mississippi	1,736,588	4,309,115	6,045,703
Missouri	1,603,306	6,059,461	7,662,767
Montana.	768,270	3,013,327	3,781,597
Nebraska	1,008,517	7,722,523	8,731,040
Nevada	453,780	1,048,757	1,502,537
New Hampshire. . . .	557,097	471,934	1,029,031
New Jersey	839,919	5,206,691	6,046,610
New Mexico	714,027	1,333,165	2,047,192
New York	1,911,618	14,098,468	16,010,086
North Carolina . . .	2,257,639	7,775,680	10,033,319
North Dakota	772,076	3,024,759	3,796,835
Ohio	1,767,011	5,424,293	7,191,304
Oklahoma	1,168,740	3,699,020	4,867,760
Oregon	$ 1,080,037	$ 6,520,193	$ 7,600,230
Pennsylvania	1,970,710	4,455,471	6,426,181
Puerto Rico.	1,535,208	3,873,209	5,408,417
Rhode Island	473,344	590,198	1,063,542
South Carolina . . .	1,333,656	3,040,676	4,374,332
South Dakota	792,556	2,649,700	3,442,256
Tennessee.	1,684,056	3,181,602	4,865,658
Texas.	2,390,013	8,631,198	11,021,211
Utah	662,743	1,440,222	2,102,965
Vermont.	551,426	648,400	1,199,826
Virginia	1,513,094	5,480,395	6,987,489
Washington	1,198,583	7,059,175	8,257,758
West Virginia. . . .	1,040,964	1,030,292	2,071,256
Wisconsin	1,505,188	8,211,957	9,717,145
Wyoming.	565,220	1,313,175	1,878,395
Subtotal	$60,485,822*	$246,162,001	$306,647,823

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*This is not total federal research funds to SAES. Excluded are research contracts made with SAES by other USDA offices and by other federal agencies. These funds would add approximately $35 million to the federal total.

SOURCE: U.S. House of Representatives. Hearings. Committee on Appropriations "Agriculture-Environmental and Consumer Protection Appropriations for 1972." 92nd Congress, 1st session. Part 2, pp. 520-521.

SOURCES OF FUNDS FOR COOPERATIVE EXTENSION WORK IN THE STATES AND PUERTO RICO FOR FISCAL YEAR ENDING JUNE 30, 1970

States	Total	Federal	State	County	Non-Tax
Alabama	$ 7,989,368	$ 3,702,786	$ 3,021,643	$ 1,154,389	$ 110,550
Alaska	712,801	330,515	382,286	—	—
Arizona	2,115,250	850,594	1,175,506	89,150	—
Arkansas	6,109,378	2,821,584	2,591,909	552,942	142,943
California	13,988,836	3,749,136	7,649,700	2,345,900	244,100
Colorado	3,632,100	1,202,125	1,580,203	790,000	59,772
Connecticut	1,939,858	735,082	1,204,776	—	—
Delaware	736,442	405,070	304,326	11,800	15,246
Florida	7,805,840	2,077,254	3,607,721	2,039,050	81,815
Georgia	10,951,447	3,940,450	4,759,700	1,546,080	705,217
Hawaii	1,783,214	538,145	1,245,069	—	—
Idaho	2,390,480	867,506	947,974	575,000	—
Illinois	9,211,561	3,673,058	4,334,135	547,746	656,622
Indiana	7,273,276	2,859,781	2,316,779	2,069,065	27,651
Iowa	7,830,175	2,856,256	3,000,000	1,850,000	123,919
Kansas	7,794,829	1,947,906	2,202,242	3,231,971	412,710
Kentucky	7,479,845	3,728,067	2,763,197	988,581	—
Louisiana	7,282,211	2,742,043	4,225,110	309,133	5,925
Maine	1,913,282	828,932	824,794	259,556	—
Maryland	4,337,420	1,319,452	2,559,913	458,055	—
Massachusetts	3,192,815	1,216,847	730,000	1,245,968	—
Michigan	9,519,542	3,388,754	4,049,231	1,536,788	544,769
Minnesota	6,719,691	2,769,345	2,544,259	1,376,762	29,325
Mississippi	7,005,370	3,754,336	2,266,397	967,487	17,150
Missouri	9,482,910	3,337,459	4,074,690	1,319,483	751,278
Montana	2,213,725	860,342	728,700	618,683	6,000
Nebraska	5,052,946	1,635,358	2,330,516	1,074,797	12,275
Nevada	1,215,722	386,622	587,074	242,026	—
New Hampshire	1,168,011	479,444	429,411	259,156	—
New Jersey	4,442,196	1,221,129	2,099,324	1,121,743	—
New Mexico	2,426,209	908,672	1,120,210	397,327	—
New York	14,278,630	4,012,931	3,959,784	5,824,274	481,641
North Carolina	14,243,964	5,274,497	5,776,346	3,193,121	—
North Dakota	2,690,708	1,165,349	767,137	680,222	78,000
Ohio	8,847,319	4,035,965	2,515,000	1,811,675	484,679
Oklahoma	$ 5,911,122	$ 2,403,140	$ 2,247,982	$ 1,100,000	$ 160,000
Oregon	5,223,627	1,221,014	3,136,165	866,448	—
Pennsylvania	7,381,783	4,285,998	2,203,285	885,000	7,500
Puerto Rico	5,344,582	3,216,123	2,045,600	—	82,859
Rhode Island	715,791	374,909	296,307	40,650	3,925
South Carolina	5,209,237	2,847,443	2,171,594	189,000	1,200
South Dakota	2,853,427	1,168,864	1,328,385	356,178	—
Tennessee	7,471,190	3,872,840	2,718,350	880,000	—
Texas	14,666,493	6,429,732	4,947,176	3,167,676	121,909
Utah	1,724,740	683,180	800,000	241,560	—
Vermont	1,537,186	567,233	817,953	152,000	—
Virginia	9,365,601	3,286,315	4,855,485	1,223,801	—
Washington	4,617,240	1,431,298	2,145,369	1,040,573	—
West Virginia	3,334,574	1,921,884	912,690	500,000	—
Wisconsin	8,043,800	2,746,993	3,200,549	2,096,258	—
Wyoming	1,422,884	551,883	613,500	257,501	—
Unallotted	37,319	37,319	—	—	—
AMA Contracts	50,000	50,000	—	—	—
GRAND TOTAL	290,687,967	112,718,960	119,115,452	53,484,575	5,368,980
District of Columbia	360,000	360,000			

SOURCE: F.E.S. "Sources of Funds for Cooperative Extension Work in the State and Puerto Rico - for Fiscal Year Ending June 30, 1970.

SUPPLEMENTARY MORRILL APPROPRIATIONS AND ENDOWMENT INCOME FROM 1862 FUND - BY STATE - FY 1970

State and Institution		Appropriation	Endowment
TOTAL ALL LAND-GRANT		$14,720,000	$11,515,478
AL:	Alabama A&M U	94,572	0
	Auburn U	183,108	20,280
AK:	U of Alaska	205,378	0
AZ:	U of Arizona	230,964	47,308
AR:	Arkansas AM&N Col	66,130	0
	U of Arkansas	176,346	6,633
CA:	U of California	573,740	59,986
CO:	Colorado St U	241,707	43,238
CT:	U of Connecticut	260,285	9,069
DE:	Delaware St Col	42,122	0
	U of Delaware	168,490	2,505
DC:	Federal City Col	218,166	7,214,000
FL:	Florida A&M U	103,310	0
	U of Florida	214,433	0
GA:	Ft Valley St Col	83,519	0
	U of Georgia	210,244	9,364
HI:	U of Hawaii	215,047	236,028
ID:	U of Idaho	215,865	144,101
IL:	U of Illinois	439,721	32,451
IN:	Purdue U	310,870	16,041
IA:	Iowa St U	265,572	31,838
KS:	Kansas St U	251,805	33,001
KY:	Kentucky St Col	39,476	0
	U of Kentucky	232,768	5,645
LA:	Louisiana St U	188,943	9,115
	Southern U & A&M Col	88,506	0
ME:	U of Maine	223,048	5,915
MD:	U of Maryland	240,667	3,696
	U of MD, Princess Anne	32,844	0
MA:	MA Inst of Tech	16,667	3,650
	U of Massachusetts	305,761	7,300
MI:	Michigan St U	386,028	0
MN:	U of Minnesota	281,178	1,949,640
MS:	Alcorn A&M Col	124,280	12,592
	Mississippi St U	127,514	5,914
MO:	Lincoln U	18,920	0
	U of Missouri	283,801	29,694
MT:	Montana St U	216,045	97,136
NB:	U of Nebraska	233,560	36,735
NV:	U of Nevada	206,784	$ 7,994
NH:	U of New Hampshire	214,432	4,800
NJ:	Rutgers, the St U	344,262	5,800
NM:	New Mexico St U	222,614	227,735
NY:	Cornell U	599,067	34,429
NC:	North Carolina A&T St U	101,752	0
	North Carolina St U	206,589	0
ND:	North Dakota St U	215,039	147,672
OH:	Ohio St U	430,809	31,451
OK:	Langston U	25,536	0
	Oklahoma St U	229,828	0
OR:	Oregon St U	242,058	14,389
PA:	Pennsylvania St U	469,164	25,000
PR:	U of Puerto Rico	255,870	0
RI:	U of Rhode Island	220,438	4,059
SC:	Clemson U	128,328	5,754
	South Carolina St Col	128,328	5,754
SD:	South Dakota St U	216,182	202,489
TN:	Tennessee St U	51,524	0
	U of Tennessee	233,298	14,998
TX:	Prairie View A&M Col	106,948	0
	Texas A&M U, Col Sta	320,847	8,950
UT:	Utah St U	221,178	42,502
VT:	U of Vermont	209,271	7,320
VA:	Virginia Poly Inst	196,221	19,919
	Virginia St Col	98,109	7,030
WA:	Washington St U	267,847	517,222
WV:	West Virginia	244,239	5,029
WI:	U of Wisconsin System	293,969	10,923
WY:	U of Wyoming	207,849	88,382

SOURCE: HEW. Office of Education. Bureau of Higher Education. Division of College Support. "Statistics on Condition of Land-Grant Funds - 1970 Report". August 31, 1971. Tables 1 and 6.

APPENDIX D.

REPORTING PROVISIONS PERTAINING TO LAND GRANT COLLEGES, AGRICULTURAL EXTENSION SERVICE AND AGRICULTURAL EXPERIMENT STATIONS.

7 U.S.C. § 305. CONDITIONS OF GRANT:

"Fourth. An annual report shall be made regarding the progress of each college recording any improvements and experiments made, with their cost and results, and such other matters, including State industrial and economic statistics, as may be supposed useful; one copy of which shall be transmitted by mail, by each, to all the other colleges which may be endowed under the provisons of Sections 301 -304 of this title, and also one copy to the Secretary of Interior."

Until July 1, 1939, Federal funds for instruction were administered by the Department of the Interior. From July 1, 1939 to April 11, 1953, these funds were administered through the Federal Security Agency. Under Recognition Plan No. 1 of 1953, 5 U.S.C. 623, all functions of the Federal Security Agency were transferred to the Department of Health, Education and Welfare.

7 U.S.C. 324. TIME, MANNER, ETC., OF ANNUAL PAYMENTS:

"...and such treasurers [of the land grant colleges] shall be required to report to the Secretary of Agriculture and to the Secretary of Health, Education, and Welfare, on or before the 1st day of September of each year, a detailed statement of the amount so received and of its disbursement."

7 U.S.C. 325. STATE TO REPLACE FUNDS MISAPPLIED, ETC.; RESTRICTIONS ON USE OF FUNDS: REPORTS BY COLLEGES:

"An annual report by the president of each of said colleges shall be made to the Secretary of Agriculture, as well as to the Secretary of Health, Education, and Welfare, regarding the condition and progress of each college, including statistical information in relation to its receipts and expenditures, its library, the number of its students and professors, and also as to any improvements and experiments made under the direction of any experiment stations attached to said colleges, with their cost and results and such other industrial and economical statistics as may be regarded as useful, one copy of which shall be transmitted by mail free to all other colleges endowed under said section."

7 U.S.C. 344. ASCERTAINMENT OF ENTITLEMENT; TIME AND MANNER OF PAYMENT: REPORTS OF RECEIPTS AND DISBURSEMENTS

"...Before the funds herein provided shall become available to any college for any fiscal year, plans for the work to be carried on under said sections shall be submitted by the proper officials of each college and approved by the Secretary of Agriculture. Such sums shall be paid in equal quarterly payments in or about July, October, January and April of each year to the treasurer or other officer of the State duly authorized by the laws of the State to receive the same, and such officer shall be required to report to the Secretary of Agriculture on or about the first day of January of each year, a detailed statement of the amount so received during the previous fiscal year and its disbursement, on forms prescribed by the Secretary of Agriculture.

7 U.S.C. 345. REPLACEMENT OF DIMINISHED, LOST OR MISAPPLIED FUNDS; RESTRICTIONS ON USE; REPORTS OF COLLEGES

> "...It shall be the duty of said colleges, annually, on or about the first day of January, to make to the Governor of the State in which it is located a full and detailed report of its operations in extension work as defined in said sections, including a detailed statement of receipts and expenditures from all sources for this purpose, a copy of which report shall be sent to the Secretary of Agriculture."

7 U.S.C. 361e PAYMENT OF ALLOTMENTS TO STATE AGRICULTURAL EXPERIMENT STATIONS; DIRECTORS AND TREASURERS OR OTHER OFFICERS; ACCOUNTING; REPORTS TO SECRETARY; REPLACEMENT BY STATES OF DIMINISHED, LOST OR MISAPPLIED ALLOTMENTS; SUBSEQUENT ALLOTMENTS OR PAYMENTS CONTINGENT ON SUCH REPLACEMENT

> "...Such treasurer or other officer shall receive and account for all funds allotted to the State under the provisons of sections 361a-361i of this title and shall report, with the approval of the director, to the Secretary of Agriculture on or before the first day of September of each year a detailed statement of the amount received under provisions of said sections during the preceding fiscal year, and of its disbursement on schedules prescribed by the Secretary of Agriculture...."

Senator **Stevenson**. We will recess now until tomorrow morning at 9:30 in this same room.

(Whereupon, at 1:40 p.m., the subcommittee recessed, to reconvene on Tuesday, June 20, 1972, at 9:30 a.m. in the same room.)

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